

SMOKE SIGNALS

For Radio Amateurs • By Radio Amateurs

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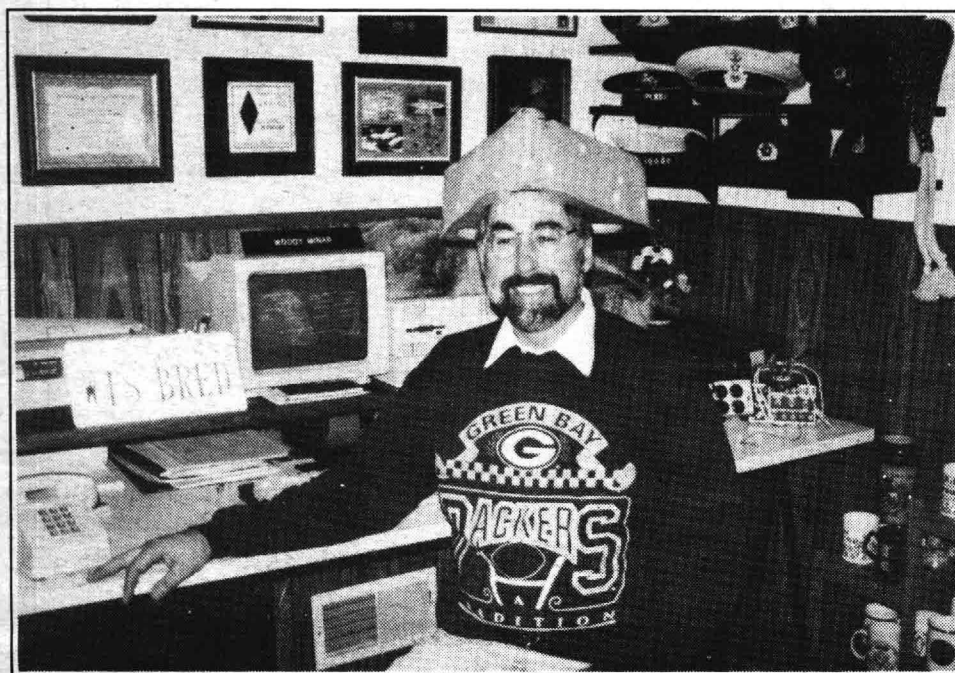
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WISCONSIN BRED CHEDDAR HEAD



Lynwood "Woody" Minar, K9EF, was born and raised in St. Croix Falls, Wisconsin. His work duties for the U.S. government have taken Woody and his wife all over the globe, but his roots remain in the Badger State. The roots including continuing loyalty to the World Champion Green Bay Packers. He has worn that cheesehead to work, bringing questioning looks at first from his co-workers, but he never received a fashion citation. Woody is an observer of solar cycles; we published an article from Woody about the beginning of the new cycle in our February issue. Woody is currently stationed back in the USA, living in Chantilly, Virginia.

PHOTO COURTESY K9EF, AT THE COERCION OF K9ZZ

ARRL members asked to comment on license restructuring ideas

ARRL members are being invited to add their ideas, comments and recommendations to those of the ARRL WRC-99 Planning Committee, which has suggested sweeping -- and potentially controversial -- changes to the Amateur Radio licensing structure in the US. On the table for open discussion and debate are proposals that include:

- elimination of the Novice license
- creation of a new Intermediate license to replace the Technician Plus
- expanded HF privileges for Intermediate licensees, including phone on 160, 75 and 15 meters

- a 10-wpm General CW test (with more stringent testing standards for all CW exams)
- expanded phone privileges for General-class and higher licensees

Details of the plan, discussed during the recent ARRL Board of Directors meeting in Albuquerque, New Mexico, will appear in March *QST*. The Board says it seeks comments from members to ensure that before any plan goes forward, it enjoys broad support from the amateur community. The Board will not act on the issue at

Please turn to page 9

Feingold says his CB RFI bill will be modified; hams exempt

U.S. Senator Russ Feingold (D-Wis.), says in a letter to some constituents that his proposed bill (S. 2025) to empower local units of government to cite citizens band operators who are operating illegally, that he intends to change the bill's language to make it clear that the bill has no effect on radio amateurs.

According to the letter, "This legislation was designed to solve a persistent problem in a number of Wisconsin's communities. In the past four years I have been contacted by citizens and their local representatives who have been frustrated by their inability to address the problem of interference caused by their inability to address the problem of interference caused by unauthorized use of CB radio equipment.

"The Federal Communications Commission, which has exclusive jurisdiction over RFI, receives thousands of complaints annually from residents who experience CB interference with their home electronic equipment. While the FCC provides technical guidance on filtering devices and other techniques residents may use to prevent such interference, the Commission is unable to provide further assistance and enforcement of FCC rules if such devices fail to be effective.

"Because of the exclusive federal jurisdiction over RFI, localities are powerless to prevent interference to residential home electronic equipment."

The letter continues: "Some legitimate concerns have been raised by a number of amateur radio operators as well as by the Amateur (sic) Radio Relay League. My staff has met extensively with League representatives to learn about these concerns and look for ways to address them. The principal concern is that local law enforcement officials will be unable to distinguish between CB radio equipment and Amateur Radio equipment, and that

FCC licensed operators will have their equipment confiscated.

"I am currently working to revise the legislation to make explicit that local law enforcement officials will continue to have absolutely no authority over individually licensed amateur radio operators. At a minimum the legislation will make possession of an amateur license a complete defense to any local or state law enforcement investigation. FCC has been quite clear in stating that amateur radio operators are rarely the cause of interference problems and have, in fact, been instrumental in providing technical assistance to residents and communities who have interference problems caused by other sources. (Bold type added by BSSS.)

"Furthermore, I am also working to revise the legislation to make clear that local law enforcement officials must provide due process required under the law. I will continue to look for additional ways to address these concerns.

"I understand there are additional concerns about providing localities and states with even limited RFI authority. However, this legislation does not provide states and localities with the ability to set their own standards for equipment or rules on interference. It only allows them, under extremely circumstances, to prohibit CB radio operation with equipment which FCC determines is unlawful.

"I will continue to work to address the concerns of the amateur radio operators and revise the legislation appropriately. However, I am committed to finding a common sense and effective solution to the problem of unlawful CB interference in order to provide relief to communities plagued by RFI problems they are currently powerless to solve."

The original draft of the bill is printed on page 6 in this issue. □

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It's almost here... lots of fun for everyone in

THE 1997 WISCONSIN
QSO PARTY
SUNDAY, MARCH 9
Noon to 7 p.m. CST

See February BSSS for full
information, including rules,
sponsor's comments, and entry form.

The WQP is sponsored annually by the West Allis Radio
Amateur Club, P.O. Box 1072, Milwaukee, WI 53201.



WHAT'S HAPPENING

✕ Swapfests and Other Social Events ✕ Club Meetings
✕ Amateur Radio Exam Schedules

EDITED BY KENNETH A. EBNETER, K9EN, 822 WAUONA TRAIL, PORTAGE, WI 53901

Swapfests and Other Social Events

SUNDAY, MARCH 9, 1997. WISCONSIN QSO PARTY sponsored by the West Allis ARC. Watch BSSS for details and entry information coming in the February issue.

SUNDAY, MARCH 16, 1997. Tri-County ARC Hamfest at the Jefferson County Fairgrounds, Activity Center, Hwy. 18 West, Jefferson, WI. Contact: TCARC, W9MQB, 711 East St., Fort Atkinson, WI 53538. (414) 563-6502 evenings.

SUNDAY APRIL 13, 1997. 25th Annual Madison Swapfest. Exhibition Hall located on the Dane County Fairgrounds in Madison, WI. 30,000 square feet of electronic equipment and components for hams, computer hobbyists and experimenters, Commercial dealers for both new and used equipment. For information contact: MARA, PO box 8890, Madison, WI 53708-8890. (608) 245-8890.

FRIDAY & SATURDAY, APRIL 25-26, 1997. Hamboree 19, Iowa State Convention, Marina Inn, South Sioux City, NE. Contact NFON, Mike Nikolaus, 316 East 32nd St., South Sioux City, NE 68776. (402) 494-6074. email menicko@avalon.net.

FRIDAY & SATURDAY, MAY 2-3. AES Superfest 97. Amateur Electronic Supply, Milwaukee, WI. Many supplier displays. Contact: Ray Grenier, K9KHW, (414) 358-4088. help@aesham.com.

SATURDAY, MAY 3, 1997. 19 annual Cedarburg Swapfest, sponsored by the Circle-B Recreation Ozaukee Radio Club at the Center, Highway 60 and County I (located 20 miles north of Milwaukee, west of Grafton. Admission \$4.00. both in advance and at the door. 4-foot tables are \$5.00. Food and refreshments available. Sellers set up 6:30 a.m. License exams start at 9:00 a.m. Talk-in on 146.37/97 and 146.52. For additional information, send an sase to ORC Swapfest Chairman, W58 N985 Essex Drive, Cedarburg WI 53012-1439. (414) 377-2784 or (414) 284-3271.

Badger State Smoke Signals

Amateur Radio Education and Information

CHAIRMAN: Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901. Telephone (608) 742-3560.

EDITOR: Jim Romelfanger, K9ZZ, 412 1/2 Ash Street, Baraboo, WI 53913. Telephone (608) 356-4031. InterNet e-mail: smokesigs@baraboo.com

TREASURER: Jim Decker, WB9UQT, P.O. Box 337, Baraboo, WI 53913-0337.

EDITORIAL BOARD: Ken Ebnetter, K9EN; Dave Knaus, WA9POV; Don Evenson, K9JYX; Jim Romelfanger, K9ZZ.

Subscriptions

1 year	(12 issues)	\$12.00
2 years	(24 issues - save \$2.00)	\$22.00
3 years	(36 issues - save \$4.00)	\$32.00

Special club package reduced rates are available. For information, contact Ken Ebnetter, K9EN.

When to Send It

The closing date for each issue is the first of the month for the next month's issue. For example, the closing date for the June issue is May 1.

The only exception is for participating clubs. Participating clubs are requested to send their material no later than FIVE DAYS after the club's meeting. For example, if a club meets on the 4th of the month, the

SATURDAY, MAY 10, 1996. Lakeshore Hamfest and Computer Swapfest, Manitowoc County Expo, Manitowoc, WI. Contact Glenn, AA9MT (414) 684-7096 or Red, N9GHE, (414) 684-9097 (nights).

SATURDAY, JULY 12, 1997. South Milwaukee ARC Swapfest. American Legion Post 434, Oak Creek, WI. Contact (414) 762-3235.

See also the back page and flyer ads for additional information on many of these events.

SATURDAY, JULY 12, 1996. Eau Claire ARC Swapfest, Eau Claire County Fairgrounds, Eau Claire, WI. Contact PO Box 1867, Eau Claire, WI 54701., Carol Ceraso (715) 723-9205 or Liz Searing (715) 834-1303.

SUNDAY, JULY 27, 1996. Racine Hamfest, Racine, WI. Contact RMC, PO Box 3, Racine, WI 53401.

Let us know of your dates as soon as you know them. We will list them and perhaps help avoid conflicts with other events.

As a service to our readers, this section of Badger State Smoke Signals is available without charge to list your upcoming Swapfest, Hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas. Send information on your event to Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901. In addition, space is available at attractive rates on our advertising pages. For information on rates and requirements for our advertising pages, please contact K9ZZ or K9EN.

Club Meetings



Due to space limitations, we cannot always carry the full listing of Wisconsin and area club meetings. Please see the September 1996 meetings column for the latest complete listing. The

material should be sent no later than the 9th of that month. This material is to be sent to the Editor.

Where to Send It

Address changes and corrections should be sent to Ken Ebnetter.

Editorial material, photographs, feature articles, display ads, and exchange papers should be sent to Jim Romelfanger.

Inquiries about advertising should be directed to Ken Ebnetter.

Club, swapfest, and Test Point information should be sent to Ken Ebnetter.

Swapfest ads should be sent to Jim Romelfanger.

Subscriptions should be sent, with check or money order, to Jim Decker.

Conditions for Reprinting or BBS Posting Material from Badger State Smoke Signals

Permission is hereby granted to reprint articles or posting articles on radio or telephone bulletin boards from *Badger State Smoke Signals*, providing credit is given to the original author, publication in which the article first appeared, and to *Badger State Smoke Signals*. THIS CREDIT IS MANDATORY. AND NO MATERIAL MAY BE PRINTED OR POSTED UNLESS IT IS GIVEN. This newspaper is produced by volunteer Radio Amateurs, and is non-profit. This newspaper is mailed from Portage, WI 53901. *Badger State Smoke Signals* is incorporated as a Wisconsin non-stock, non-profit organization.

Editorial Disclaimer

The opinions expressed in editorials, guest editorials, columns, articles, and letters from readers are the opinions of the authors only, and do not, unless otherwise stated, express or imply endorsement by *Badger State Smoke Signals*, or by any other individual or organization.

following are additions or changes since that listing.

MILWAUKEE RADIO AMATEURS CLUB

Last Thursday evening, Redemption Lutheran Church, 4057 North Mayfair Road, Wauwatosa 53222. Meetings begin at 7:30 p.m. 12 months of the year.

GREATER MILWAUKEE DX ASSOCIATION

Fourth Monday of the month at 7:30 p.m. Contact any GMDXA member or Gary Schwartz, K9GS, (414) 363-4439, garyk9gs@solaria.sol.net, K9GS@WA9KEC.WI.USA.NOAM, Packet cluster: NB9C, for meeting location.

M & M AMATEUR RADIO CLUB

General meeting held second Thursday each month at 7:00 p.m. in cafeteria of BAMCm basement, Tenth Ave., Menominee, MI. All amateurs and guests are welcome. Use the 147.000+ repeater. Our net is Sunday at 7:00 p.m. on the repeater. Our address is P.O. Box 1082, Marinette, WI 54143.

YELLOW THUNDER AMATEUR RADIO CLUB (BARABOO)

Days rotate: All meetings will be at the Baraboo Civic Center, room 14, unless otherwise noted. Starting time for the monthly club meeting is 7:30 p.m.. The program starting time after the meeting is 8:00 p.m., with a one hour limit.

The Test Point



Amateur Radio Examination Locations and Schedules in the Wisconsin Area

March 01, 1997	Oshkosh (Omro), WI
March 01, 1997	Racine, WI
March 01, 1997	St. Paul, MN
March 08, 1997	Blaine, MN
March 08, 1997	Bloomington, MN
March 08, 1997	Madison, WI
March 08, 1997	Marshfield, WI
March 08, 1997	Oak Creek, WI
March 13, 1997	Apple Valley, MN
March 15, 1997	Redgranite, WI
March 16, 1997	Cottage Grove, MN
March 16, 1997	Loves Park, IL
March 18, 1997	Eden Prairie, MN
March 19, 1997	Milwaukee, WI (MRAC)
March 22, 1997	Menomonee, WI
March 22, 1997	Tomahawk, WI
March 22, 1997	Wauwatosa, WI (MRAC)
March 22, 1997	Appleton, WI
April 05, 1997	Oshkosh (Omro), WI
April 05, 1997	Racine, WI
April 05, 1997	St. Paul, MN
April 10, 1997	Apple Valley, MN
April 12, 1997	Blaine, MN
April 12, 1997	Bloomington, MN
April 12, 1997	Eau Claire, WI
April 12, 1997	Madison, WI
April 12, 1997	Oak Creek, WI
April 15, 1997	Eden Prairie, MN
April 16, 1997	Milwaukee, WI (MRAC)
April 19, 1997	Redgranite, WI
April 19, 1997	Cottage Grove, MN
April 19, 1997	Loves Park, IL
April 26, 1997	Tomahawk, WI
April 26, 1997	Wauwatosa, WI (MRAC)
May 03, 1997	Oshkosh (Omro), WI
May 03, 1997	Racine, WI
May 03, 1997	St. Paul, MN
May 08, 1997	Apple Valley, MN
May 10, 1997	Blaine, MN
May 10, 1997	Bloomington, MN
May 10, 1997	Madison, WI
May 10, 1997	Manitowoc, WI
May 10, 1997	Oak Creek, WI

May 17, 1997 Redgranite, WI
 May 17, 1997 Cottage Grove, MN
 May 17, 1997 Loves Park, IL
 May 20, 1997 Eden Prairie, MN
 May 21, 1997 Milwaukee, WI (MRAC)
 May 31, 1997 Tomahawk, WI
 May 31, 1997 Wauwatosa, WI (MRAC)
 June 07, 1997 Appleton, WI
 June 07, 1997 Oshkosh (Omro), WI
 June 07, 1997 Racine, WI
 June 07, 1997 St. Paul, MN
 June 12, 1997 Apple Valley, MN
 June 14, 1997 Blaine, MN
 June 14, 1997 Bloomington, MN
 June 14, 1997 Madison, WI
 June 14, 1997 Marshfield, WI
 June 14, 1997 Oak Creek, WI
 June 17, 1997 Eden Prairie, MN
 June 18, 1997 Milwaukee, WI (MRAC)
 June 21, 1997 Redgranite, WI
 June 21, 1997 Cottage Grove, MN
 June 21, 1997 Loves Park, IL
 June 28, 1997 Tomahawk, WI
 June 28, 1997 Wauwatosa, WI (MRAC)
 September 20, 1997 Appleton, WI
 October 18, 1997 Redgranite, WI
 November 01, 1997 Menomonie, WI
 November 02, 1997 Kaukauna, WI
 November 15, 1997 Redgranite, WI
 December 13, 1997 Redgranite, WI
 January 24, 1998 Appleton, WI
 Monthly, 1st Sat. Racine, WI
 (except January, July & August)
 Monthly, 1st Sat. Oshkosh (Omro), WI
 Monthly, 1st Sat. St. Paul, MN
 Monthly, 2nd Thu. Apple Valley, MN
 Monthly, 2nd Sat. Oak Creek, WI
 Monthly, 2nd Sat. Madison, WI
 Monthly, 2nd Sat. Bloomington, MN
 Monthly, 2nd Sat. Blaine, MN
 Monthly, 3rd Tue. Eden Prairie, MN
 Monthly, 3rd Wed. Milwaukee, WI (MRAC)
 Monthly, 3rd Sat. Loves Park, IL
 Monthly, 3rd Sat. Cottage Grove, MN
 Monthly, Last Sat. Wauwatosa, WI (MRAC)
 (except December)
 Monthly, Last Sat. Tomahawk, WI
 (January thru October only)
 Quarterly Marshfield, WI
 (Second Saturday every third month.)
 Quarterly Eau Claire, WI
 (Second Saturday, Jan., Apr., & Oct.
 plus annual summer hamfest.)
 Many Swapfests/Hamfests offer exam sessions.
 If not shown above contact the sponsoring club in the
 Swapfest column on page 2.

The FCC now requires applicants to show their
 ORIGINAL AMATEUR LICENSE to the VEC. A copy of your
 license must be attached to your FCC form 610. You
 will also be required to have a photo ID, or other
 acceptable identification.

GENERAL RULES

FOR MOST EXAMINATIONS:

Be sure to check with sponsors in the event
 there are changes and/or errors in the dates or
 information given.

Some examinations require filing an FCC Form
 610 and advance registration at least 30 days before
 the exam date. (Some VECs permit walk-ins. Check with
 sponsor.)

To register, you must first secure a copy of the
 current FCC Form 610 and fill it out completely (AND
 CORRECTLY). Get your form from an FCC Field Office,
 the ARRL. Send a 32c/ SASE if you request one from
 the ARRL. In most cases, forms can also be obtained
 from the sponsoring group.

ARRL/VEC examinations require a check for \$6.05
 payable to "ARRL/VEC".

The FCC now requires applicants to show their
 ORIGINAL AMATEUR LICENSE or CSCE to the VEC. You
 must also have two good copies of your license or
 CSCE. A copy of your license or CSCE must be attached
 to your FCC form 610 and most VEC want a copy for
 their records. You will also be required to have a
 photo ID, or other acceptable identification.

Technician class licensees must show proof of
 testing before March 21, 1987, in order to upgrade to
 General with a code test only.

Additional information is given below.

MILWAUKEE RADIO AMATEURS' CLUB (MRAC/VEC) OAK CREEK, WI

SECOND SATURDAY DATE: 1:00 p.m. at Wauwatosa
 Savings Bank, 6560 S. 27th St., Oak Creek, WI.

THIRD WEDNESDAY DATES: At 6:30 p.m. at Village
 at Manor Park, (was Methodist Manor) 3023 S 84th St.,

(84th & Oklahoma) Milwaukee, WI.

LAST SATURDAY DATES: (except December): 9:00
 a.m. at 7500 W. State St., Wauwatosa S&L, lower
 level, Wauwatosa, WI.

For Additional Information Contact: Jack
 Krause, (414) 774-6999 or call (414) 466-HAMS
 (Answering Machine) or write Milwaukee Radio
 Amateurs Club, PO Box 25707, Milwaukee, WI 53225.

Bring along your ORIGINAL license, CSCE and two
 (2) good quality photocopies, plus two forms of
 identification, such a driver's license, etc. Also
 required is \$5.00 for the exam fee. WALK-INS are
 welcome. To register in advance, use a post card:
 print the grade of license you are applying for, and
 your name, address, and telephone number. Send the
 card to MRAC/VEC, at the addresses shown above.

BADGER EXAMINERS (BE) - MILWAUKEE

Amateur exams: 1:00 p.m. to 4:00 p.m.
 Commercial exams: 9:00 a.m. to 12:00 noon.

Unless otherwise noted at WMVS-TV studios, MATC
 Downtown campus in the C building starting at 9:00
 a.m. for commercial exams and Amateur exams at 1:00
 p.m. the same day. The address is 1036 N. 8th Street,
 Milwaukee. Enter at the North West entrance of C
 Building. Walk-ins are welcome. To register in
 advance, send a post card with your name, test or
 tests you wish to take, date you wish to take., your
 call sign, address and telephone number to Badger
 Examiners, Gary J. Sharbuno, WI9M, 5119 W. Willow
 Rd., Brown Deer, WI 53223. Telephone (414) 355-0237.

Also available FCC General Radio Telephone
 Commercial exams. Fees are \$5.90 for the Amateur
 Radio exams and \$35.00 for the commercial exams.

MADISON, WI

VE exams are held in Madison every second
 Saturday morning of the month at 8 a.m. They are held
 at the operations building of the Madison
 Metropolitan Sewerage District at 1610 Moorland Rd.
 To get there take the Beltline (Hwy 12 & 18) to South
 Towne Drive. Go south 8/10 mile till South Towne
 Drive makes a bend and becomes Moorland Rd. and enter
 at gate.

You should bring a picture ID, your original
 licence and a copy of your licence. For exams beyond
 the novice tests, bring a check for \$5.90, made out
 to the ARRL/VEC. If the special 610 form with the
 medical exemption is required, contact me
 beforehand to obtain one. No appointments are
 necessary to take exams. For further questions,
 please leave a message on the mailbox or phone me at
 (608) 832-6631.

Mark Jenks, NZ9B

RACINE, WISCONSIN - ARRL/VEC

Monthly - first Saturday, except January, July,
 and August.

Monthly exams are given 9:00 to 11:00 a.m. at
 the Red Cross Building, 4521 Taylor Avenue, Racine.
 Walk-ins are permitted.

Talk in on 147.87/.27. Inquiries and
 registrations should be directed to Robert N.
 Jensen, WOWLN, 5616 Cambridge lane #6, Racine, WI.
 Telephone (414) 886-8551.

TOMAHAWK, WI

Last Saturday of every month. Jan. thru Oct.

Tomahawk Volunteer Examiners (ARRL/VEC).
 Tomahawk, WI. No preregistration required, but
 appointment would be appreciated. Registration at
 8:30 a.m. and testings starts at 9:00 a.m. For
 location or other information, inquire on 145.43
 MHz. repeater or contact: Terry Collins, KB9AUP,
 W6564 Highway 8, Tomahawk, WI 54487. Telephone (715)
 453-4633.

APPLETON, WI - ARRL/VEC

MANITOWOC, WI (HAMFEST)

KAUKAUNA, WI (HAMFEST)

Conducted by the Fox Cities ARC VE team. All
 test sessions in Appleton are held at James Madison
 Jr. High, 2020 S. Carpenter Street. Testing starting
 at 8 a.m. For Appleton information, contact George
 R. Croy, W9MDP, 2113 Twin Willows Drive, Appleton,
 WI 54914. (414) 730-0967. For Manitowoc or Kaukauna
 information, contact Larry Siebers, KD9IA (414)
 759-1167.

STEVENS POINT, WI (ARRL/VEC)

Held in room 107, of the UWSP Science Building,
 on the corner of Fourth and Reserve Streets in
 Stevens Point. Contact Joe Larson, N9JW evenings at
 (715) 344-1182.

PEWAUKEE, WI

Kettle Moraine Exam Team. Held at the Pewaukee

WCTC Campus Science Building, Room S101. 9:00 a.m.
 to Noon. Contact Al Johnson, AA7CS. (414) 568-0836.
 103357.3222@COMPUSERV.COM

OSHKOSH (OMRO)

The Oshkosh VE Team will administer Amateur
 Radio exams monthly on the first Saturday. Exams
 will be given from 9 a.m. until noon at the Omro City
 Hall. Registration begins at 8 a.m. Walk-ins OK.
 Bring a good quality photocopy of your original
 license. The first session will be through W5YI/VEC,
 and then sessions will alternate between ARRL/VEC
 and W5YI/VEC. For more information, please call Dick
 Lemme, KB9FA, at (414) 235-0987, e-mail
 lemme@vbe.com, or write Dick at 826 Jefferson
 Street, Oshkosh, WI 54901.

EAU CLAIRE

The Eau Claire ARC will hold exam sessions on
 the second Saturday in the months of January, April,
 and October, as well as on the date of their annual
 hamfest during the summer. For further information
 contact: Carl F. Searing, W9NW, 1129 Mc Kinley Road,
 Eau Claire, WI 54703-2219. (715) 834-1303.

REDGRANITE, WI (W5YI VEC)

The Radio Amateurs of Wisconsin (RAW) will be
 holding test sessions at the Civic Center in
 Redgranite, 202 Pine River Road, one block from
 Highway 21. Registration at 8:45 a.m. with testing
 at 9:00 a.m. Bring two forms of identification,
 \$6.25 per test, two copies of all original
 documents, CSCE's, Licenses, etc. All are welcome
 for breakfast at the Curve Inn on Highway 21,
 preceding the exam session. For further
 information, contact: Mark Miller, N9WT, (414) 231-
 1662 or Sharon Gramza, N9YGN, (414) 566-2362.

MENOMONIE, WI

The Menomonie, WI VE team will conduct its 1997
 exams on Saturday, March 22 and Saturday, November
 1, 1997. At UW-Stout Communication Center, 820 South
 Broadway, Menomonie, WI. Walk-ins only, 9:00 a.m. to
 11:00 a.m. Contact: Jim Ley, NX9F, (715) 232- 1397
 (W) or (715) 235-3998 (H).

WISCONSIN DELLS, WI

Wisconsin Dells City Hall, City Council
 Chambers. 10:00 a.m. to 2:00 p.m. Contact: K9WD,
 (608) 254-2895.

CEDARBURG, WI - ORC HAMFEST

EAU CLAIRE, WI - ECARC HAMFEST

GREEN BAY, WI - ARES HAMFEST

HAYWARD, WI

- HAYWARD HAMFEST

KAUKAUNA, WI - SWAPFEST

MANITOWOC, WI, LAKESHORE HAMFEST

MARSHFIELD, WI - HAMFEST

OAK CREEK, WI - SMARC HAMFEST

RACINE, WI - RACINE HAMFEST

RHINELANDER, WI - NWARC SWAPFEST

ROCKFORD, IL - RARC HAMFEST

ROTHSCHILD, WI - WVRA HAMFEST

SOUTH MILWAUKEE, WI - SMARC HAMFEST

STEVENS POINT, WI - CWRA SWAPFEST

WAUKESHA, WI - KMRA SWAPFEST

WAUKESHA, WI - MIDWINTER SWAPFEST

DUBUQUE, IA - HAMFEST

See the Swapfest column for additional
 information and contact persons.

DUBUQUE, IA - ARRL/VEC

Dubuque Hamfest. Contact: Carl Clark, NOKAX,
 2145 Delicia Drive, Dubuque, IA 52001. (319) 557-
 9149.

LOVES PARK, IL

Third Saturday of every month. Northern
 Illinois Volunteer Examiners (W5YI VEC). Held at
 North Suburban District Library, 6340 North Second
 St. (Hwy. 251), Loves Park, IL. Contact: Dennis G.
 Eksten, W9SS, (815) 877-6768.

MINNESOTA TEST INFORMATION

From the September 1996 edition of "The Ground
 Wave", Saint Paul Radio Club.

Saint Paul Radio Club (SPRC)

Contact: Jay Bellows, K0QBE (612) 222-7253

Test Site: St. Paul Technical College

235 Marshall Ave.

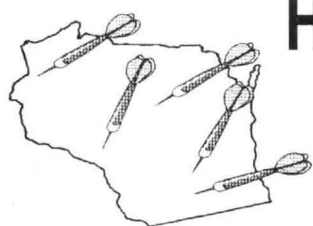
St Paul, MN

TESTING: First Saturday of the month, 8:30 a.m.

Anoka Amateur Radio Club (AARC)

Contact: Art Mundy, W0FYX, (612) 571-7441

(continued on page 15)



HERE and THERE

Permission granted for Linenger to ham it up from MIR

US ham-Astronaut Jerry Linenger, KC5HBR, has been granted permission for general QSOs and scheduled school radio contacts with unlicensed students and a control operator.

Getting permission involved approval by authorities in the US, Russia and Germany. Miles Mann, WF1F, Director of Educational Services for the Mir International Amateur Radio EXperiment (MIREX), and Dave Larsen, N6CO, director of the MIREX board, signed an agreement on behalf of MIREX, while Sergei Samburov, RV3DR, chief of the Cosmonaut Amateur Radio Department, signed for the Mir Amateur Radio EXperiment (MAREX), and Joerg Hahn, DL3LUM, international coordinator, signed for the German Space Amateur Funk EXperiment (SAFEX) group, which provided the ham equipment aboard Mir.

The FCC also has given approval for Linenger (and for Astronaut Colin "Michael" Foale, KC5UAC -- who takes Linenger's place in May) for general QSOs and third-party traffic with schools, family and friends. Linenger recently arrived on Mir via STS-81.

According to Mann, applications for US school QSOs with cosmonauts are approved by MIREX, based on specific guidelines, before being sent on to Samburov and SAFEX. "The Mir crews have busy work schedules, but our guidelines allow us to arrange--months in advance -- school QSOs during crew off hours," he explained. The Cosmonaut Amateur Radio Department gives final approval for all QSOs and reserves the right to cancel at any time. Mir's daily experiments always have first priority over ham radio.

Because Mir crews now include a US astronaut, SAREX and MIREX have begun to work together. Currently the SAREX program has about 80 schools on its waiting list. To get a Mir school QSO application, send a self-addressed, stamped envelope to Educational Activities Department, ARRL, 225 Main St, Newington CT 06111.

A word on random QSOs with the Mir space station: Mir crews make random voice QSOs only during off hours. Do not ask the crew to schedule QSOs, as they do not have the long-term calendar. The 2-meter Mir frequencies recently were changed: The uplink frequency is 145.200 MHz and the downlink is 145.800 MHz. This change resulted from a recommendation from ITU Region 1 (Europe). Please do not ask the crew about it, as the crew does not set policy on frequencies.

Rosalie White, WA1STO in *The ARRL Letter*, 1/31/97

Licenses-renewal reminders

The ARRL has begun mailing license-renewal notices to members whose ham tickets are about to expire. The renewal package will include an FCC Form 610 and an FCC addressed envelope. Nearly 3100 notices were sent to be mailed this past week to hams whose licenses will expire between February 17 and May 30, 1997. The last renewal notices sent by the FCC covered licenses expiring on February 16, 1997. Now that FCC has stopped sending renewal notices, the ARRL decided to resume this popular member service.

The ARRL Letter, 1/17/97

Changing trustee's call sign

When a club station trustee gets a new call sign, the FCC does not automatically change the trustee's call sign shown in its club records. Although this is not required, a trustee can send the FCC in Gettysburg a letter requesting that it change the trustee call sign on the club

Operators needed for Madison Marathon

Fifty operators are needed for communications for the Madison Marathon on May 25. Starting times for operators vary somewhat. Please contact Tom Fleming, N9SZF, at (608) 246-0282. E-mail: n9szf@skywarn.cs.wis.edu

license. The letter should include the name of the club, the club call sign, the trustee's former call sign and the trustee's current (ie, new) call sign. --FCC

The ARRL Letter, 1/14/97

Credit where it's due

The photos which were published last month of the 1996 Wisconsin QSO Party big winners were taken by Les Peterson, W9YCV. We regret the omission of the photo credit, but no credit was seen on the photos. Thanks, Les!

FCC resumes vanity processing!

The vanity floodgates have reopened. The FCC office in Gettysburg, Pennsylvania, has processed vanity applications received from December 1, 1996, through February 5, 1997. In all, slightly more than 2400 applications were processed, but only slightly more than half of the applicants managed to successfully snag one of their call sign choices. The FCC made 1344 grants. More than 1000 applications ended up in the dreaded work in process (WIPS) stack for special handling. It's expected that most of the WIPS applications will be dismissed because the FCC was unable to grant any of the applicant's requested call sign choices. In other cases, the FCC must resolve apparent discrepancies in the applicant's name, address or call sign.

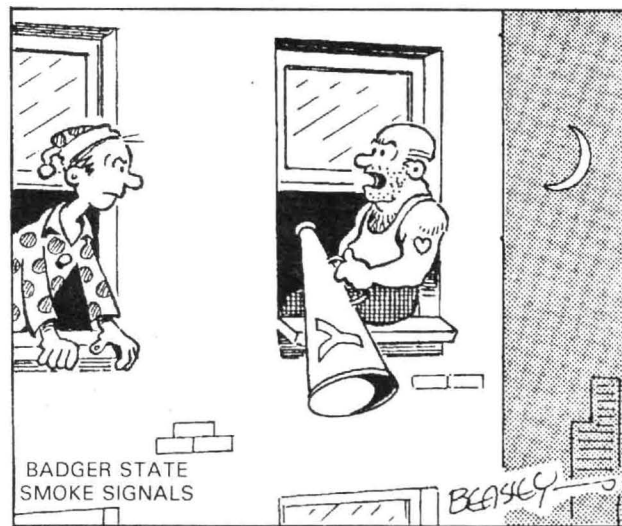
A backlog of WIPS applications had held up vanity processing for approximately two months, as personnel in Gettysburg worked to clear the decks. Prior to the recent big wave on February 12, a few vanity grants had trickled out of Gettysburg as the staff worked its way through the WIPS pile.

Vanity call sign applications continue to arrive at the FCC. Gate 1 opened last May, Gate 1A opened in July and Gate 2 opened in September. There is still no word on when the FCC plans to open Gate 3.

The ARRL Letter, 2/14/97

On the Lighter Side

By Bob Beasley, K6BJH



WHY SHOULD I SPEND A BUNCH OF MONEY FOR RADIO GEAR WHEN I CAN TALK TO SOMEBODY ACROSS TOWN THIS WAY?

New Web Site for MIR Amateur Radio

To provide information on SAFEX, the Space Amateur Funk EXperiment aboard the Russian Space Station MIR, the DLR Amateur Radio Group DF0VR at Oberpfaffenhofen, Germany, has installed a new Web site:

<http://www.op.dlr.de/~df0vr/home.htm>

vy 73 de Rudolf Appel, AMSAT-DL Munich

Got a story for BSSS?

If you have an article or story for BSSS, here's how to get it to us.

- If it is text only, please send it in ASCII format only. We sometimes have problems importing "foreign" formats. It can be sent by e-mail or on disk by snail mail. If you send it by snail, please include hard copy. Always double space BETWEEN PARAGRAPHS.

- If your article or story has graphics (charts, maps, or other graphics), please do not send it by e-mail. Use snail. We are having extreme difficulties bringing up graphics sent via the net. To prevent loss of detail or data, let us scan your graphic here. Send to the editor, address on page 2. Thanks!

From the photo files ala 1979

Rummaging through the picture archives (a few cardboard boxes without any organization) sometimes yields a few interesting photos. This one was taken at the 1979 Central Division Convention at Milwaukee's Red Carpet Hotel, across from Mitchell Field. At left is former NBC-TV Science Reporter Roy Neal, K6DUE, who delivered an excellent after-dinner talk about his work with NBC covering the U.S. space program. At right is Ken Ebner, K9EN, of Portage. Roy is keeping busy doing independent on-camera work, and enjoying life in North Carolina, while Ken is keeping busy fixing broken things at radio stations as a Senior Broadcast Engineer. Roy passes his regards to his ham radio friends in Wisconsin. He was kind to *not* mention that Wisconsinites wear food on their heads. The convention was sponsored by the West Allis Radio Amateur Club.



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ARRL opposes little LEO effort to include 219 to 225 MHz

Commercial satellite interests seeking access to bands below 1 GHz -- including amateur allocations at 146 and 430 MHz -- now have added 220 MHz to their "wish list." For the first time, Little LEO (lowearth orbiting satellite) interests have proposed including 219-225 MHz in their list of desired allocations for the non-voice, non-geostationary (NVNG) mobile-satellite service (MSS). The move was contained in the industry's so-called "flexible allocation proposal," delivered at the February 13, 1997, meeting of FCC Informal Working Group (IWG) 2A. Little LEO targets now include 146 to 148, 219 to 225 and 430 to 450 MHz. The ARRL and AMSAT were among those objecting to the concept, and the League is urging those who agree with their position to comment to the FCC by March 4. IWG-2A has been preparing draft proposals for the 1997 World Radio-communication Conference (WRC-97). These will be reviewed during a March 5 meeting of the FCC's WRC-97 Industry Advisory Committee that is preparing draft proposals for consideration by the United States as it gets ready for WRC-97.

The ARRL and AMSAT statement said the latest proposal affecting amateur allocations in the 219 to 225 MHz segment came "at the last possible moment" and "without any technical support whatsoever." The League and AMSAT pointed out that the little LEO proponents have had more than a year to complete a technical study of the possibilities of sharing with the amateur services in the 144 to 148 MHz and 420 to 450 MHz bands. "They have not demonstrated compatibility for sharing these amateur bands but over the evolution of their document have proposed various 'new ideas' for use of these bands."

The little LEO flexible allocation strategy for WRC-97 -- submitted as IWG-2A/86 (Rev. 6) -- is to propose broad allocations. The apparent theory is that most administrations would find reasons to oppose little LEO use of specific bands in the crowded spectrum below 1 GHz, but that a broad allocation would permit different implementations in different countries depending on local circumstances.

At the February 13 meeting, a coalition of spectrum interests -- including land mobile, amateur, broadcasting, and military--opposed the flexible allocation concept on three grounds: that the concept is simply an invention to avoid performing technical sharing studies that would demonstrate the unfeasibility of sharing; that it is inconsistent with decades of ITU allocations practices; and that, if adopted, the concept would be counter to US interests. The coalition document is identified as IWG-2A/107.

The ARRL and AMSAT submitted a further statement of opposition, citing the absence of any technical studies that might support sharing with the amateur service or the amateur-satellite service and pointing out that the little LEOs have completely mischaracterized the nature of ITU Resolution 640 regarding the use of certain amateur bands in the event of natural disasters. The ARRL/AMSAT paper, revised to reflect opposition to the late proposal to include 219-225 MHz, is identified as IWG-2A/108 (Rev. 1).

Amateurs also might find interesting the comments of the Department of Defense, identified as IWG-2A/101 (Rev. 1). These address the 430 to 450 MHz segment the Little LEOs seek to share.

Anyone wishing to register support for the ARRL/AMSAT submission should send a brief e-mail message to wrc97@fcc.gov. The Subject line should say "Reference No. ISP-96-005 IWG-2A." A simple statement to this effect, "I support the ARRL/AMSAT opposition to the NVNG MSS flexible allocation proposal," will be included in the public record and will help to drive home the point that there is broad-based opposition to poorly conceived sharing proposals.

Please note! The proposals the League opposes are not FCC proposals, nor are they endorsed by any other branch of the government. They are industry proposals. The League's objective is to demonstrate there is broad citizen opposition to the industry proposals, so the government will not adopt them as US proposals. So, please don't "flame" the FCC if you comment.

Additional arguments or evidence also is welcome. Important! Comments should reach the FCC no later than March 4, 1997!

The complete ARRL/AMSAT opposition statement and other comments will be posted by February 15 on the ARRLWeb page, <http://www.arrl.org/> under Band Threat News.

The ARRL Letter, 2/14/97

Dusting off Morse code: It's the key

By Richard Regent, K9GDF
5003 South 26th Street, Milwaukee, WI 53221

"We now have over 2,000 participants in 27 countries!" exclaims Debra R. King, N9GLG, Director of Morse 2000 Worldwide Outreach. Debbi manages the Office of Continuing Education in Human Sciences and Services at the University of Wisconsin - Eau Claire, and enthusiastically promotes the use of Morse Code in rehabilitation and education.

Morse Code, used in communications over the past 150 years, is most recently being learned by people with special needs and disabilities. Being a binary-opposition movement pattern, Morse Code can be generated with left-right, pushpull and puff-sip control. Code proves to be the best of several adapted computer access methods and augmentive or alternative communication techniques. Its effectiveness truly helps enhance the lives of many persons with special needs.

Various Morse Code programs, encouraged by Debbi, are being used or tested to allow people, such as those with spinal injuries, to converse. She provides information for occupational therapists or speech pathologists and justifies the advantages of using Morse Code to help their patients. Sometimes patients hear about Morse 2000 and put their therapists in touch with Debra. The information Debbi provides saves the therapist-patient team years of research work, time that they would have spent attempting to find the best methods and selecting reliable equipment.

Results generate heart-warming success stories, especially at learning centers and children's hospitals around the world. The ARRL has carefully reviewed Morse 2000 programs and has generously given support through grants.

Debra is also Program Manager arranging for the first Morse 2000 World Conference. It will be held October 18 and 19, 1997, at the Radisson South Hotel in Bloomington, Minnesota. The Conference will begin at 5 p.m. on Saturday and conclude at 3 p.m. on Sunday (right after the annual Closing the Gap International Conference at the same site). Everyone is anxiously planning to attend. Physicians, clinicians, teachers, users, families, researchers, product developers and many Morse enthusiasts have caught the vision of Morse code applications and research in AT, AAC, education and rehabilitation. Amateur Radio operators are encouraged to attend the Conference, they can help share their technical knowledge to develop equipment and code skills to train others. To receive Conference specifics, contact Debbi King at the Morse 2000 Headquarters at (715) 836-3990 or email - kingdr@uwec.edu.

Doctor Thomas King, WF9I (Debra's husband), is Editor of the MORSEs newsletter that notifies folks about the important information and accomplishments of using Code with the Morse 2000 programs. Authors and experts share their knowledge and stories through MORSEs in subjects like assistive technology, rehabilitation, special education and literacy learning. Under the newsletter title is m-o-r-s-e-l-s printed in Morse Code, easily recognized by its readers.

Now, with the help of Morse 2000, results of Morse code research are being applied! The international news of Morse 2000 can also be found on the World Wide Web at <http://www.uwec.edu/Academic/Outreach/Morse2000/morse2000.html> or through the features of its free "list server" subscription. Debbi and Tom King, who staff Morse 2000 Headquarters, would be glad to hear from you on this subject, and your thoughts would be most welcome.

(See story on page 7 of this issue. - editor)



A Morse 2000 client (left) and Donna McMahon, SLP, work with the program in Lexington, Kentucky. PHOTO VIA TOM KING/WF9I

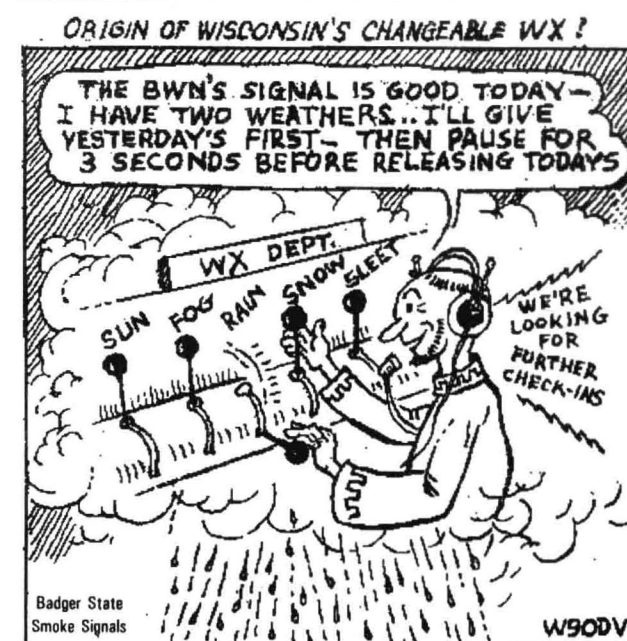
CORRECTION

In our January story about how to work through the 70cm repeater aboard the Russian Mir space station, there is an error in the Doppler compensation frequency programming chart. The error was in the last line. The corrected table is here:

	Downlink	Uplink	Offset
CH1	437.958	435.742	+2.216
CH2	437.956	435.744	+2.212
CH3	437.954	435.746	+2.208
CH4	437.952	435.748	+2.204
CH5	437.950	435.750	+2.200
CH6	437.948	435.752	+2.196
CH7	437.946	435.754	+2.192
CH8	437.944	435.756	+2.188
CH9	437.942	435.758	+2.184

Note: Be sure to program the 141.3 Hz PL tone on each memory channel.

The story was written by Jim Nazacek, KB9LTW, Hartford, but we had the "honor" of making the boo-boo. The article appears in *Worldradio* as well, with a couple of errors in the table, but a corrected table will appear in that publication's next issue. Sorry, readers, and our apologies to Jim. The article was excellent, and we hope it provides the impetus to get more amateurs using space communications modes.



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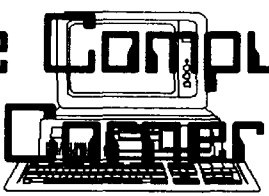
MARCH 1997

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rspr@baraboo.com or call (608) 356-0286.

(Due to a typesetting error by BSSS, the telephone number in this ad was incorrect in our February issue. We apologize for any inconvenience this may have caused.)

The Computer



By Stan Kaplan, WB9RQR
105 Martin Drive
Port Washington, WI 53074-9654
(414) 284-9346
WB9RQR @ N9PBY.EN63BI.WI.USA.NA
SKAPLAN @ POST.ITS.MCW.EDU

No. 40: PRINTERS

As we have all discovered at one time or another, the stuff on our computer screen can be fleeting, and sometimes unrecoverable, especially if the power is shut off. Printers give us a hard copy for handling and reading and sharing and even mailing. Clearly, they are important.

Printers make characters on paper in basically two different ways. Impact printers work much like typewriters; they produce characters by striking an inked ribbon which, in turn, strikes the paper. Non-impact printers cause a chemical reaction in the paper, or they spray the paper with a jet of ink, or they drop powdered ink on the paper and then melt the powder into a solid ink blob.

Dot-matrix printers are the most common type of impact printers. They work just like typewriters, except that in a typewriter a metallic or plastic character strikes the ribbon. By contrast, the dot-matrix printer uses a series of fine pins to strike the ribbon. The pins are typically arranged in a vertical column of 9 or 24 in the printhead. Some of the pins strike the ribbon, then the printhead moves horizontally a little and they strike again. The pattern of pins selected for striking as the printhead moves builds the character on the paper.

Few dot-matrix printers are sold today, but they are certainly still available at swapfests and are inexpensive. They can provide good copy, especially the 24 pin models when used in a "letter quality" mode.

Thermal printers are a non-impact type. Their printheads heat the paper, a chemically coated type that turns dark with heat. These printers generally provide poor quality output. Coupled with the need to use special paper, this type of printer is not a good choice, even if you can find one of these relics at good swapfest prices.

Laser printers generally produce the best quality output. These transfer powdered ink to the paper in a pattern representing the character to be printed. Then they heat and fuse the powder to the paper. Laser printers are typically large and somewhat heavy, owing to the engine that transfers powder to the paper. They also consume a considerable amount of power for the transfer, and to heat the ink. Moreover, the powdered ink cartridges and general maintenance can be quite costly. These factors make them somewhat more expensive to purchase and to use than other types, though the quality of their printing is excellent.

Ink jet printers are currently the most popular type for home or ham related printing. These project a fine spray of liquid ink directly on the paper. They are also quite capable of spraying colored inks, and the best color ink jets today can do an astounding job of reproducing color artwork, or even photographs. As a class, they are less expensive than laser printers, and even their black and white output rivals the lasers in sharpness and overall quality. Ink jet printers are the choice if you are going to buy one new.

There is one more major consideration when picking out a printer at a swapfest. Printers come in two different "flavors", serial and parallel. Although either flavor can do the job, they do it differently. The parallel printer connects to the parallel port, a 25-pin female socket on the computer's rear panel. As explained in previous articles, the data goes out of your computer's parallel port to the printer through eight wires, simultaneously. By contrast, a serial printer connects to one of your COM ports - either 25 pin or 9 pin male plug on your computer's rear panel. Fewer wires are needed to transmit the data, since the data is sent in pulses one after the other. However, if you install a serial printer, you won't be able to use the computer for packet without unplugging the printer and plugging in the TNC, unless you have more than one COM port installed. You will also need to add at least one software command to your

AUTOEXEC.BAT file to let your computer know it should send printer data to the serial port, instead of the parallel port. Keep these factors in mind when shopping, and be sure to find out the "flavor" of any printer you are considering. One way to do this is to look at the data plug on the back of the printer. If the connector is a standard 25 pin D-shell connector, it is probably a serial printer. On the other hand, if it is a funny looking 36 contact Centronics connector, it is almost certainly a parallel printer.

Happy computing!

Reprinted, by permission, from the ORC Newsletter, Ozaukee Radio Club, P.O. Box 13, Port Washington, Wisconsin 53074 (Skip Douglas, KA9DDN, Editor). □

Original draft of Wisconsin Senator Russ Feingold's anti-CB RFI bill

104TH CONGRESS
2D SESSION S. 2025

To amend the Communications Act of 1934 to authorize the States to regulate interference with radio frequencies.

IN THE SENATE OF THE UNITED STATES

AUGUST 2, 1996

Mr. FEINGOLD introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To amend the Communications Act of 1934 to authorize the States to regulate interference with radio frequencies.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. AUTHORITY OF STATES TO REGULATE RADIO FREQUENCY INTERFERENCE.

Section 302 of the Communications Act of 1934 (47 U.S.C. 302) is amended by adding at the end the following:

"(e) Where radio frequency interference to home electronic equipment is caused by a CB radio station through the use of a transmitter or amplifier that is not authorized for use by a CB radio station pursuant to Commission rules, the State, county, municipal, or other local government shall not be preempted from exercising its police powers to resolve the interference by prohibiting the use of such unauthorized equipment or by imposing fines or other monetary sanctions. For purpose of this subsection, home electronic equipment includes, but is not limited to, television receivers, radio receivers, stereo components or systems, video cassette recorders, audio recorders, loud speakers, telephone equipment and other electronic devices normally used in the home. Any action taken by the State, county, municipal, or local government shall not preclude concurrent action by the Commission. Nothing in this subsection shall be construed to diminish the Commission's exclusive jurisdiction over radio frequency interference in any matter outside the scope of this subsection."

(This is the original draft of the bill. As indicated in the story on the front page, we are told that the final version will be different, and that radio amateurs will be specifically exempt. There are many potential problems with this draft, some of which could even lead to false arrest suits against law enforcement officers.

Taking part in a local fox hunt a few years ago, with me driving and Al, AA7CS, doing the bearings, a squad blocked my path in a parking lot. Seems the officer mistook me for a CB operator, which is not uncommon. A conversation with Lt. Kluge of the Baraboo Police Department "unconfused" the matter, and, in fact, led to some cooperative work by local hams for the police. And, it seems the CB operators do their "hunts" very differently. Bad start, good outcome for amateurs.. in this instance.

If you read this before you read the front page story, go back there and read it before you react.)

Jim Romelfanger, K9ZZ, Editor

25th
Annual

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Morse Telegraph Club members hold demo in Wisconsin Dells

By Bob King, W9QOQ (ex-KA9GNY)
411 Lynn Avenue, Baraboo, WI 53913

On December 10, 1996, the Dells Area Historical Society held its Christmas party at Genie's Restaurant about two miles north of the Dells on Highway 12. After a sumptuous meal of chicken and ham, Bud Gussell, president of the society, introduced Fred Becker, W9KKM, and myself.

We had set up a Morse circuit between tables at opposite ends of the room. With about 60 in attendance we had a lot of fun, with Mr. Gussell whispering a name in Fred's ear and Fred sending the name to me. A lot of people were surprised when their names were called. *How does that work?*

After the fun, we had a lot of questions about how the telegraph works and when and how it came into being.

The telegraph was invented by Samuel F. B. Morse in the late 1830s, and was the first practical use of electricity. Morse and Alfred Vail perfected the telegraph in Vail's Iron Works in Speedwell, New Jersey. They set up a line along the Baltimore and Ohio Railroad between the Library of Congress in Washington, D.C. and the depot of the B&O in Baltimore, Maryland, on May 24, 1844. The daughter of the library custodian picked a message from the Bible; what was chosen was unknown to Morse and Vail. It read, "What hath God wrought?" The message was transmitted by Morse, and was immediately repeated by Vail from Baltimore.

The railroads immediately recognized the significance of the telegraph, and began making plans to speed up train operations by wiring ahead to another station to hold a train to meet with a train from the opposite direction. The telegraph eventually spread to all the railroads. Since there was no standard time (each railroad had its own time!) in the 1850s, the railroads divided the U.S. into four time zones and set up our present system of Eastern, Central, Mountain, and Pacific time zones, each one hour apart. This system of "standard" times was later adopted by Congress as the law of the land.

The telegrams which were sent to instruct the trains where to meet were issued in the Central Telegraph Office on each railroad, and were known as "train orders". They were usually copied in multiple. A copy went to the engineer, one to the conductor, and a copy was filed at the station. A "greenie", or 19 order, could be handed up on a hoop to the engineer and conductor as the train went by. A "yellow", or 31, was a positive stop order, and the conductor had to get off the train and get both orders from the telegrapher.

The telegraph went commercial in 1860, and put the legendary and much-heralded, 18-month old "Pony Express" out of business overnight. There were many telegraph companies formed, but most were bought almost immediately by Western Union and Postal Telegraph. Western Union prevailed, and bought Postal in 1941.

After WW II, telegraph use began to decline on both the railroads and in commercial communications, yielding to the teleprinter, telephone, and radio.

Today, trains are in direct contact with the dispatcher by radio. Western Union still exists, but in the U. S. you can only send money by going to a bank. They telephone the order to Western Union, which phones it to a bank at the destination.

It may sound as if the telegraph is dead. It is far from it, it just changed form. Some of the classic forms it takes today are in, for example, computers, which use a binary



Fred Becker, W9KKM (left), of Wisconsin Dells, and Bob King, W9QOQ, Baraboo, pound some brass and stay in shape by copying code. Landline Morse circuits used American Morse, which is different from the International used on radio. Bob began his hamming career as W9QOQ, then let his license lapse. He became a "retread", and came back to ham radio as KA9GNY. Last year he applied for his original call as a vanity call. That made both Bob and his call "retreads." Bob and Fred occasionally give demonstrations of telegraphy around the Baraboo-Dells area. Bob "dedit" for the Chicago and Northwestern Railroad and for Western Union. Fred's telegraphy was for the Milwaukee Road.

PHOTO BY K9ZZ

code (on or off, like mark and space in telegraphy and teleprinting). Other forms include the starter solenoid in your car (it is a modified form of a telegraph sounder) and electrical relays. These all descended from the Morse sounder principle of a magnetized iron core attracting another piece of iron to it, making contact to close a circuit.

The Dells Historical Society has a museum in the Bowden House in Bowden Park on Main Street. It is open in the summer for interested visitors.

The Morse Telegraph Club in international, and anyone who ever used a Morse key, on a wire or on the air, is welcome to join. Our chapter, "MW" (Milwaukee-Madison) covers most of Wisconsin, part of Illinois, and Iowa. If you are interested, contact chapter President Fred Becker, W9KKM, at (608) 254-2182, or write Fred at 1630 Valley View Drive, Wisconsin Dells, WI 53965. Dues are \$7.00 per year, which includes four issues a year of *Dots and Dashes*, a very interesting newspaper for both telegraphers and radio operators.

The MW Chapter meets the last Saturday of April at the Mid-Continent Railway Museum in North Freedom, Wisconsin, eight miles west of Baraboo, to honor the birthday and the memory of Samuel F. B. Morse, whom we feel never fully received the acclaim due him.

PROPAGATION PREDICTIONS

By Woody Minar, K9EF
13508 Tabscott Lane, Chantilly, VA

We have often heard terms such as Solar Activity, Geomagnetic Field, etc., but what do they really mean in nonprofessional's terms? Here are some definitions provided by the NOAA. For those of you who are interested and may have missed it, the NOAA (Boulder, CO) URL is <http://www.sec.noaa.gov>, the gopher is [sec.noaa.gov](gopher://sec.noaa.gov), and the ftp is [sec.noaa.gov](ftp://sec.noaa.gov).

Space Environment: The region between the Sun and the planets has been termed the interplanetary medium or the space environment. Of particular interest to us is the region of the space environment that extends from the Sun to the top of neutral atmosphere of the Earth, where a variety of electromagnetic, radiative, chemical, and dynamic processes can affect advanced technology and human life.

Solar Activity: Solar activity describes a variety of events on the Sun, including the occurrence of sunspots, flares, filaments, coronal holes, and coronal mass ejections.

Solar Wind: The flow of solar plasma and magnetic field streaming outward from the Sun is called the solar wind. Solar-wind velocities are usually near 350 km/s, but gusts in the solar wind that are often associated with space environment disturbances can exceed 1,000 km/s.

Geomagnetic Field: The magnetic field observed in

and around Earth is the geomagnetic field; this field is less or more distorted by the slower or faster solar wind. The intensity of the magnetic field at the Earth's surface is approximately 0.32 gauss at the equator and 0.62 gauss at the poles.

Ionosphere: The upper atmosphere of the Earth between roughly 40 and 600 km is called the ionosphere; it contains free electrons and ions that are produced by photo-ionization of the constituents of the atmosphere by the solar ultraviolet radiation at wavelengths shorter than 100 nm. The radio propagation mechanisms in this layer cause it to reflect longer wavelengths and significantly influence shorter wavelengths that are transmitted through it. Satellites are particularly susceptible. The ionospheric influence on radio waves varies with the level of current and recent solar activity, the frequency of the transmission, and a given location on Earth.

Coronal Hole: The outer solar atmosphere, the corona, is structure by magnetic fields. When the magnetic field is weak, the solar win flows unimpeded. These areas of weak field are observed in X-rays as being darker than surrounding areas giving the appearance of "holes." Coronal holes may appear at any time of the solar cycle, but the largest are most common during the declining phase of the cycle. The high-speed solar wind from a hole may cause disturbed geomagnetic conditions when it sweeps over Earth.

Coronal Mass Ejection: When the magnetic field in the outer solar atmosphere, the corona, is tied to the Sun at both ends, often above sunspot groups, the magnetic field can suddenly and violently open to space and release the confined solar atmosphere in bubbles or tongues of gas. This ejection of solar plasma and magnetic field is a coronal mass ejection.

Skywarn weather spotters: Time to get those training pants on!

Dane County

The National Weather Service and Dane County Emergency Management are again teaming up for tornado safety. Tornado Spotter training will be offered on:

- **March 13** at the Badger Chapter of the American Red Cross, 4860 SWheboygan Avenue in Madison.
- **March 24** at the Waunakee EMS Building, 201 North Klein Drive in Waunakee.
- **April 28** at the Sun Prairie City Hall, 300 East Main Street in Sun Prairie, and
- **April 28** at the McFarland High School, 5103 Farwell Street in McFarland.

All sessions last one and one-half to two hours, are open to the public, and are free of charge. The session in Sun Prairie will start at 1:00 p.m.; all others will start at 7:00 p.m.

A well-trained and organized weather spotter network is a vital part of our severe weather warning system. For more information about the course, please call Ray Peña at 267-2542.

Sauk County

A total of four sessions are scheduled in two days, all in Baraboo.

March 11: 10 a.m., 2 p.m., and 7 p.m., all in Room B24 of the West Square Building.

March 12: 10 a.m. in Room B30 of the West Square Building.

South-Central Wisconsin

The South-Central Wisconsin SKYWARN spotter training program will be on Saturday March 22, 1997. The session will begin promptly at 10:00 a.m. This is going to be a fast-paced program which will be limited to two hours with a 10-15 minute break in the middle.

Continued on page 8

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NEW PRODUCTS

MFJ-3506 Ferromagnetic-Core Design and Application Handbook

Ferromagnetic-Core Design and Application Handbook is the newest book from MFJ Publishing.

It will be a quick and handy reference or good study manual for Amateur Radio operators .. only \$19.95.

If you use inductors and transformers with magnetic cores, you need this book! *Ferromagnetic-Core Design and Application Handbook* by legendary designer and Amateur Radio operator Doug DeMaw, W1FB, is the only book that emphasizes the practical aspect of magnetic core materials from low frequencies through UHF. DeMaw gives you an in-depth understanding of basic theory and gives many practical circuit examples that use toroids, rods, and pot cores made of ferrite and powdered iron. All circuits were proven in the lab by the author.

Ferromagnetic-Core Design and Application Handbook gives you lessons about proper core selection versus operating frequency, circuit Q, power handling capability and physical mass. DeMaw teaches how to avoid using the wrong core material or misapplying the right core material that can ruin a perfectly good circuit.

Tedious mathematics have been omitted to make it easier to understand. Equations are only used when needed to illustrate a concept or design example. This comprehensive book contains many examples of narrow-band and broadband transformers and inductors. Ferrite loop antennas, slug-tuned inductors, RF chokes and ferrite beads are also discussed in depth. Magnetic-core devices are highlighted in filters, switching power supplies and impedance-matching networks.

DeMaw gives you a wealth of information .. Five appendices give you an enormous amount of design data that you can put to use right away! The appendices contain comprehensive design data, list of core manufacturers, a rather lengthy bibliography, design nomographs, conversion tables, and numerous pages of component numbers and characteristics from a variety of manufacturers.

For more information or your nearest dealer, contact MFJ Enterprises, Inc. 300 Industrial Park Road; call 601-323-5869; FAX: 601-323-6551; INTERNET WEB SITE: <http://mfjenterprises.com>; or order toll-free by calling 1-800-647-1800.

MFJ NEWS RELEASE

MFJ-711 High Pass Filter

MFJ's new high pass TVI filter will suppress severe TV interference at the source .. for only \$24.95!

MFJ proudly announces the MFJ-711 high pass TVI filter. Use between your cable and VCR or TV set and reduce TV interference (TVI) from nearby radio transmitters.

Don't let strong radio signals ruin your favorite sporting event or the wife's soap opera! Watch your television peacefully .. without the harsh TV interference caused by nearby radio transmitters! MFJ's new high pass TVI filter can drastically reduce or eliminate most TV interference coming from nearby radio transmitters.

Wipe out TVI coming from broadcast, commercial, two-way, amateur and CB radios operating below 30 MHz. This new high pass filter makes a great gift idea for family members who are tired of watching a messy television screen!

MFJ-711 uses a unique common-mode rejection (RF current on the shield of the coax cable) incorporating a toroid ferrite core. It has more than -60 dB attenuation on 10 MHz, more than -55 dB on 20 MHz, and more than -40 dB on 30 MHz. Insertion loss is less than 0.5 dB at 52 to 550 MHz; less than 1.5:1.

MFJ's new high pass TVI filter has an impedance of 75 unbalanced/300 balanced and uses CATV (type F) connectors. Dimensions are 3.625W x 1.125 D x 2 H inches. It weighs 1/4 lb.

MFJ-711 high pass TVI filter is protected by MFJ's famous NO MATTER WHAT™ one year unconditional warranty. That means that MFJ will repair or replace

(at their option) your product for one complete year.

For more information or your nearest dealer, contact MFJ Enterprises, Inc. 300 Industrial Park Road; call 601-323-5869; FAX: 601-323-6551; INTERNET WEB SITE: <http://mfjenterprises.com>; or order toll-free by calling 1-800-647-1800.

MFJ NEWS RELEASE

Icom IC-821H All-Mode Dual Band Transceiver



Icom announces the IC-821H high performance all-mode dual band base station transceiver. The IC-821H is compact and lightweight, making it an ideal rig for mobile, fixed or field operation. Yet the IC-821H is packed with top performance features unmatched by other base station transceivers including superior high frequency stability and 100% duty cycle operation.

Built-in satellite functions include normal and reverse tracking, independent uplink/downlink control for Doppler shift compensation and separate satellite VFO. Ten satellite memories allow you to quickly switch from normal to satellite operation, plus easily recall satellite uplink and downlink frequencies. In satellite mode, the sub band is set to the transmitter (uplink) frequency and the main band is set to the receiver (downlink) frequency. CW (including optional CW narrow) can be used with an electronic keyer. A transmit/receive frequency tracking function with shift tracking is standard.

Independent controls and indicators for each band make the IC-821H easy to operate. To change from the main band to the sub-band, simply push a button. You can even receive simultaneous signals on each band and monitor the signal strength of both signals on separate S-meters.

Tune automatically at variable tuning speeds by using the sub-tuning function and RIT or SHIFT control. This eliminates the need to rotate the main tuning dial frequently when trying to find a signal over a wide frequency range.

The IC-821H covers from 144 to 148 MHz VHF and 430 to 450 MHz UHF. Both bands have two VFO's.

Additional features include IF shift that electronically adjusts the center frequency of the receiver pass-band for effective interference reduction and a noise blanker to eliminate pulse-type noise. A memory allocation function divides memories between bands. The IC-821H also has an AF speech compressor, auto repeater and one-touch repeater functions, built-in high stability crystal unit, and RIT. CW enthusiasts will appreciate the built-in keyer, optional CW narrow filters for the main and sub band, and adjustable keying speed and dot/dash ratio. In addition, the day time for semi break-in operation is adjustable and the side tone circuit is synchronized with the transceiver's volume.

Programmed scan, memory scan and mode select scan are also included in the

HAMFEST ADVERTISERS

If your club or organization is running a card ad for your event in BSSS, you are eligible for one free display ad. In order to assure publication of that display ad, we MUST depend on YOU to send a copy of the flyer for the event AT LEAST EIGHT WEEKS before the date of the event. You may waive the free ad if you wish. If you do want to use the free display ad, send two copies, unfolded and on light or white stock, to Jim Romelfanger, K9ZZ, 412 1/2 Ash Street, Baraboo, WI 53913-2501. We cannot be responsible for lost or misdirected mail.

IC-821H.

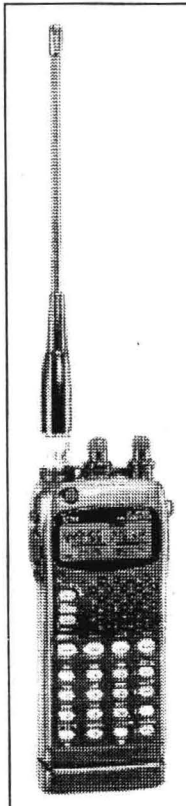
Packet operation (9600 bps) is possible. Additional packet features include selectable data rates of 1200 or 9600bps and modulation signals from the ACC are adjustable for various input levels.

Options include a UT-84 tone squelch unit, UT-1 02 voice synthesizer and FL-1 32/FL-1 33 CW narrow filters.

The suggested retail price for the IC-821H is \$2,040.00. For further information, please contact your local Icom Amateur Radio dealer or Icom America, Inc., 2380-116th Avenue N.E., Bellevue, WA 98004, (206) 454-8155.

ICOM NEWS RELEASE

Icom IC-W32A Compact Dual-Band Handheld



Icom introduces an ultra-slim dual-band handheld, big on performance and features. The IC-W32A fits comfortably in your hand, and meets the demands of the experienced and novice operator.

A total of 200 memories may be displayed by either frequency or alpha name. Up to eight alphanumeric characters can be programmed for quick and easy identification on the LCD. Each band has 100 memory channels and four DTMF memories have up to 16-digit capability. Superior memory management allows you to easily transfer memory contents to either VFO or to other memories while an EEPROM prevents memory loss if the battery runs low.

Receive both VHF and UHF bands simultaneously (both frequencies can be viewed on the display!) or use the V/V and U/U functions to

or use the V/V and U/U functions to receive two frequencies on the same band. You can transmit on either operating band. The IC-W32A has separate tuning and volume controls for each band on the top panel to allow independent adjustment of each band. Icom's versatile VHF/UHF exchange function allows you to assign VHF/UHF tuning and volume to either knob. Frequency coverage is 144-148 MHz and 440-450 MHz transmit and 118-174 MHz and 400-470 MHz receive.

The IC-W32A is easy to use. A new guide function enables quick description of the key function without searching a menu list. No function button means simple programming.

A power MOS-FET module provides high power output even under low battery voltage. Three levels of power output are available, including economical low. Multiple power-saver functions (with current drain as low as 30 mA) provide long operating times. A battery voltage readout allows you to monitor the battery condition. The IC-W32A accepts 4.5 to 16 volts external power supply.

The Icom IC-W32A has large, backlit keys for easy operation. Additional features include full crossband duplex operation. Scanning functions include programmed, full and memory skip scan. The IC-W32A also has ten U.S. weather channels and improved audio. Tone encoder and decoder (tone squelch) are built-in, and transmit and receive CTCSS tones can be different.

Clone information from handheld-to-handheld with Icom's optional OPC-474 cloning cable. Memory channels, memory names and other information can be easily transferred from one IC-W32A to another.

Optional computer software enables you to clone and edit contents using a computer. Options include an HS-85 headset and BP-173 battery pack for five watts of output power.

The suggested retail price for the IC-W32A is \$479.00. For information on availability, please contact your local Amateur Radio dealer or Icom America, Inc., 2380-116th Avenue N.E., Bellevue, WA 98004, (206)454-8155.

ICOM NEWS RELEASE

License Restructuring?

Continued from front page

least until its July meeting.

After its research revealed that as many as three Novices in four are inactive, the committee concluded that the Novice license is no longer useful. Although the committee would end the Novice license, its plan provides current Novices with an easy means to upgrade (via an open-book test) to the new Intermediate class license, which would replace the current Technician Plus. All present Tech Plus licensees would become Intermediate licensees. The Basic license would supplant the Technician license -- now the hobby's most-popular entry-level ticket -- with no changes in privileges. In addition, the committee's plan would phase out the current Novice and Tech Plus bands on 80, 40 and 15 meters, and replace them with new Intermediate-class allocations. The committee's consensus plan for Intermediate-class licensees calls for new CW bands on 80, 40 and 15 meters starting 25 kHz up from the lower band edge, digital and phone-band privileges on 75 and 15 meters and a 50-kHz phone or CW segment at the top end of 160 meters, plus expanded Novice and Tech Plus CW and phone allocations on 10 meters.

According to the proposal, Intermediate CW bands would be 3525 to 3700 kHz, 7025 to 7050 kHz, 21025 to 21150 kHz and 28050 to 28300 kHz. Digital operation was suggested for 3600 to 3625, 21100 to 21125 and 28100 to 28189 kHz. Phone privileges would include 1950 to 2000, 3900 to 4000, 21350 to 21450, SSB from 28300 to 28500 and FM from 29500 to 29700 kHz. Transmitter power for Intermediate-class licensees would be limited to 200 W PEP output (other licensees using these bands would not be limited to 200 W, however).

General-class and higher amateurs also would benefit from the plan, if it's adopted according to the committee's outlines. General-class hams would get additional phone privileges 3800 to 3850, 7200 to 7225, and 21250 to 21300 kHz; Ad-

vanced-class hams would add 3725 to 3775, 7125 to 7150 and 21175 to 21225 kHz; Extra-class hams would also have 3700 to 3750, 7125 to 7150 and 21150 to 21200 kHz.

With the exception of 40 meters, where Novice and Tech Plus licensees already have privileges, the committee suggested no changes on the hobby's narrowest and most crowded bands -- including 20 meters and the narrow WARC bands at 30, 17 and 12 meters.

The Intermediate CW test would be 5 words per minute (the same as the current Tech Plus requirement), but the committee proposed that the General class CW requirement be set at 10 wpm. There still would be no additional CW exam for the Advanced ticket, nor would there be any change in the 20-wpm requirement for the Extra. Exams for all classes would include a return to a sending test and the requirement for one minute of solid copy during a five-minute test -- instead of the current method that tests on the content of the CW text.

Right now, these major changes are only in the talking stage. "Let us be very clear about this," said ARRL Executive Vice President David Sumner, K1ZZ, who characterized the committee's proposals as a starting point for discussion, not a done deal. "The changes are not ARRL policy; nothing has been proposed to, or by, the FCC, and the ARRL Board is committed to making no decision before its July 1997 meeting." Sumner said there is no timetable to complete the process. Only after there is an opportunity for in-depth consideration and discussion by the membership will the ARRL Board consider taking the next step -- to approach the FCC with a rulemaking proposal -- a process that automatically invites additional comments and suggestions.

Between the time they receive March QST and May, members are asked to voice their opinions on the committee's suggestions to their directors, whose postal and e-mail addresses are listed on page 10 of QST. All suggestions and comments -- positive and negative -- are welcome.

The ARRL Letter, 1/5/97

PARTICIPATING CLUBS AND ORGANIZATIONS



Notes From the Section Manager

Roy Pedersen, K9FHI • 510 Park Street
Juneau, WI 53039



W9YCV received membership in ARRL A-1 club.

RRRC presented KA9JDE with a plaque for being "ham of the year" in the club.

Adams County ARC new officers are Pres: N9UXA, V.Pres: N9SZE, Sec./Treas: KB9KAP, Trustees WB9YKK, N9WYQ. Repeater committee N9HWP, KB9GUX, KB9KAO.

Hidden Valley ARC is having classes in Plattville at the UWP.

Congratulations Ron Crown who upgraded to General November 20 and then on December got his Advanced.

Tim Schuman, KB9HJN, upgraded to

Extra December 18, who also scored 100% on the exam.

Sorry to hear about the Baraboo tower down, sure hope things get together soon, guess they would like help paying for it, it is quite costly.

Adams County swapfest June 1, at the Adams County fairgrounds in Friendship, tailgate area, Examinations, and more, hope to see you there.

I have had this position as SM since July and Wisconsin has received 378 new ARRL members, thanks to all who joined.

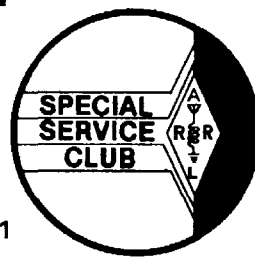
The Milwaukee Radio Amateurs Club is 80 years old this year, congratulations to the club.



Riverland Amateur Radio Club

Dan Abts, N9PZC
Secretary

Club mail address: P.O. Box 621
Onalaska, WI 54650



Due to a very heavy snow storm, the Riverland Amateur Radio Club did not meet in February, according to Dan Abts, N9PZC, RARC Secretary.

The Racine Megacycle Club



Club Station W9UDU • Racine, WI

ARRL Affiliated

Providing Communications for American Red Cross and ARES

Mary Urban, N9ZWE, Secretary

c/o RMC • P. O. Box 3 • Racine, WI 53401-0003



MEETING MINUTES February 10, 1997

February's meeting began with a presentation by Jay Johnson, N9KIY, of the Satellite Computer Network at Case Corporation.

Following the presentation, the meeting was called to order by President Rob Madson KF9ZT, at 8:30 p.m. Those present were:

Rob	KF9ZT	President
Kenny	N9WHR	Vice President
Mary	N9ZWE	Secretary
Dave	AA9HL	Treasurer
Lee	N9VNU	Activities Manager
Matt	KA9HHU	
Joseph	KB9HSJ	
Kevin	KB9OTW	
Tony	N9ZWM	
Robert	N9ZWO	
Dennis	WB9SVM	
Bob	W0WLN	
Bill	W9OVZ	
Cheryl	WS9P	
Gene	WB9ZKY	
Alan	N9ZWJ	
Don	KB9HAM	

Rob, KF9ZT, started out the meeting with a discussion about the new radio room and the vertical HF antennae, the 2M beam and the 6M beam antennas on the tower outside the building. They all have the coax running to the new radio room. We are currently up and running on 2M and 6M and about 30 feet away from HF operation. The rotor is all installed and operating. Now there is mostly cleaning and organizing left in the room.

Dave, AA9HL, gave the treasurer's report. The treasurer's report was accepted as read.

Two corrections were made to the minutes published in the January *Badger Smoke Signals*. The first was that this month's meeting is being held at the Red Cross Building, not at Case Corporation. The second was that the classes will run for 12 weeks, not 2 weeks. The mistakes were noted by Lee N9VNU.

Rob, KF9ZT, again brought up the subject of our relationship with the Red Cross. He said it is going very good and he's having regular conversations with several people and he doesn't see a big problem. We no longer have the room to store all the equipment we now have. Club members can have items that will be gotten rid of. The Red Cross will be holding more classes to generate cash and they only have the two class rooms. They do not have classes Saturday night or Sunday during the day or night. We should think about holding our meetings on the available days. Lee, N9VNU, brought up the idea of an alternate location. Rob, KF9ZT, said that would be OK, but the Red Cross location is documented in so many areas of the RMC literature.

Lee, N9VNU, discussed the upcoming Wisconsin QSO party. The only restriction on turning in your logs is that you can only turn in either a club station log or a personal log. You can use your personal log to count for the club station log.

He also handed out sign up sheets for Field Day. Activity ideas are being accepted and the 1997 Field Day will again be held at Larry, WA9JMO's, farm.

Cheryl, WS9P, suggested that the new ham class be invited to the QSO party. Their class starts at 6:30 p.m. Sunday night, so they could just come early for class.

Rob, KF9ZT, said the ARRL Sideband DX contest is coming up the first weekend of March. The club station could be used for this purpose. Contact one of the board members if you are interested.

Cheryl, WS9P, discussed the November 1997 Radio Cruise. The rest of the spaces will be turned over to Cruise Commanders to be sold to the general public. A meeting will have to be planned in May or June with the people going on the cruise, to decide what kind of activities they would like to participate in on the cruise. Licensing plans will have to be finalized.

Mary, N9ZWE, requested that anyone having paperwork relating to club activities over the years please turn them in. Larry, WA9JMO, and Mary, N9ZWE, are trying to put together the history of the club and the paperwork should be consolidated.

The Jan 3 Fox Hunt winners were the team of Dan, KA9OIL; Ray, WB9LST; Dave, KC9NG; and Mike, N9PMO. The January 31 winners were the team of Joe, KB9HSJ; Rob, KF9ZT; Kathy, N9ZWM; and Sylvia (no call).

Dave, AA9HL, requested that if you have not paid your dues as yet, please do so.

Mary, N9ZWE, said that she is starting to utilize the *Racine Journal Times* Saturday Community Section for club events. Also, the monthly meetings will be listed. She has published the ham class notice and will be publishing the Ham Cruise and Ham Banquet. She is planning on writing an article for the *Journal Times* Club Spotlight, and has completed a new Racine/Kenosha Area Activities list.

W0WLN announced that we lost another ham last night, NW9M, Dick Larsen.

The meeting officially closed at 8:56 p.m. The drawing for the GOODY BOX was held following the meeting and the "LUCKY" winner was Ken, N9WHR.

Mary, N9ZWE, neglected to mention during the meeting that as a result of the write-up in Saturday's Community Section, we got two new students for the Sunday Ham class, two interested in a General Class and a new member for the club.

The Fox Hunt Schedule is: Feb. 28, March 28, Apr. 25, May 23, June 20, July 18, Aug. 15, Sept. 12, Oct. 10, Nov. 7, Dec. 5. Contact Dan, KA9OIL, for further information.



E.C.A.R.C. EAU CLAIRE AMATEUR RADIO CLUB

Carl Searing, W9NW, Secretary
P.O. Box 1867 • Eau Claire, WI 54702-1867
<http://www.edp.net/~mceraso/ECARC.html>

MEETING MINUTES February 11, 1997

The focus of the meeting, which opened at 1930 hours with a rollcall, was a talk by Gale Sorum, WD9HFT. Gale discussed "Repeaters 101", and did so most eloquently, utilizing his great knowledge of the subject. A high point (literally) of his presentation was his "show and tell" of a 22' repeater antenna (!). Gale will continue in March, and we all look forward to it.

Secretary's and Treasurer's reports were read and approved.

WB9RBP reported that the club No-Code Tech class is progressing well. Some 17 students have passed the Novice written, and the Tech written is to be given March 1. The club voted to reimburse KB9JOE for out-of-pocket expenses, and also voted a sum of money to be used for the Mission Eau Claire project, as was

done last year.

There was discussion on the subject of Hamfest raffle and door prizes. N9OHE will head up the committee, WB9RBP will assist. Suggestions are welcomed.

The recent demise of the 28/88 repeater antenna in the Baraboo hills was commented upon. The club voted to assist by donating a sum of money, if contact with them by KB9R verifies the need.

A reminder: March meeting at usual place, WD9HFT will continue.

April meeting at the Labor Temple, starting at 7 p.m. On the 8th, Skywarn training for 3+ hours.

March lunch committee: KC9NN, KB9R.

Additional Note: April VE test date changed from April 12th to April 19th. Adjourned: 2132 hours.

W9NW, Secretary

Mancorad Radio Club

Dave Shemchak, KB9KQA,
Secretary

P.O. Box 204 • Manitowoc, WI
54221-0204

2-Meter Repeater: 146.01 Input/146.61 Output



MEETING MINUTES February 2, 1997

Janice, N9IQZ, Club President, brought the February meeting of the ManCoRad Radio Club to order at 1930 hrs.

Janice, N9IQZ, introduced the club officers and board members. Then we went around the room and everybody introduced themselves. Thanks Fred, W6BSF, for that suggestion! Fred, as a new member, doesn't know who everybody is. Even I, after 2 years with the club, can't match all the faces with all the call signs! Good idea, Fred!

The minutes from the January meeting, as published in the *Badger State Smoke Signals*, were approved. Motion made by Red, N9GHE, and seconded by Dick, N9QFY.

The treasurer's report as read by Glenn, AA9MT, was approved. Motion

made by Red, N9GHE, and seconded by Gene, KB9KXF.

Glenn, AA9MT, informed the members that some tables have been reserved for our HamFest in May. At present, we have one commercial vendor committed. We are also in the process of gathering information from vendors for our raffle prizes. We should have the list finalized at the next club meeting.

Janice, N9IQZ, reminded everybody that volunteers were needed to help set up for the HamFest. She also asked for help moving items from the club shack that are going to be sold at the HamFest.

John, NZ9Z, gave a report on the progress of the General Class upgrade course. He said that there are 9 or 10 people present for the classes, and that the ARRL Video Course is a tremendous help

Continued on page 11

ManCoRad Radio Club

Continued from page 10

in teaching the course!

I, KB9KQA, gave a report on the progress of the Novice/Technician Class training course. Our first class was last week, and unfortunately, we only had one student show up! I decided that we would run him through an abbreviated course using the ARRL Novice/Technician Video Course. Of course, anybody who is interested is welcome to come!

Janice, N9IQZ, again reminded everybody that volunteers were needed to head up our Field Day effort and our annual Special Event Station on the USS Cobia!

Eric, WD9IAB, suggested the possibility of combining both projects.

Janice, N9IQZ, passed around a copy of a letter sent to members who weren't at the last club meeting. The letter contained information on what the club has done over the last year and what our plans are for this year. Enclosed with the letter were membership cards and a new Macro list for the club repeater. Any members who did not receive the macro list or the membership card, please contact Ron, WS9X.

The computer classes have been completed. Thanks Ron, WS9X, and Janice, N9IQZ, for your time and effort!

Clancy, K9WIX, plans to offer an informal class on "FreeTel", an Internet Voice Chat type program. Janice, N9IQZ, plans to offer an informal class on the Internet.

With the varied interests of club members, we should be able to accommodate a large range of radio and computer related topics. If you have any ideas, please speak up!

The club received a thank you card from Wayne and Judy Frank for the gift certificates that we gave them. Thanks again, Wayne, for the work you did on our repeater controller!

Club members are reminded that they can renew their ARRL memberships through the club. Contact Glenn, AA9MT, for details.

Fred, W6BSF, reminded everybody that on the second Saturday of the month there is a breakfast get together with S.C.A.R.C. in Cleveland. All are welcome.

Clancy, K9WIX, read a letter he received from Nancy Crowley, Director of Emergency Government, about upcoming Weather Spotter training offered by the National Weather Service. Training will occur on a date between the 3rd and 17th of April. Interested members are asked to contact Clancy.

Bob, KB9INK, brought in some newsletters from an A.R.C. in Michigan. Bob wondered if ManCoRad could produce

their own newsletter. General consensus was that the cost of printing, copying, and postage of a newsletter would be prohibitive and that we would continue with the *Badger State Smoke Signals* as our "newsletter". On a related note, I, KB9KQA, volunteered to put the minutes on our local packet BBS. They will be located in the "club" category on MTWBBS. Due to postage dates of the *Badger State Smoke Signals*, some members don't receive their copies before the meetings. Hopefully, putting the minutes on MTWBBS, will allow more members to be up to date when they get to the meetings.

(BSSS editor's note: This newspaper has been scheduled for some time to change postal categories to what used to be second class. It currently is what used to be third class. Our chairman has to make a bunch of arduous changes in the mailing list database, and other changes are needed, too. However, when the change in class of mailing is finally made, you will receive your BSSS much more quickly than you currently do - K9ZZ.)

Red, N9GHE, and John, NZ9Z, thanked the club for the donation to their packet operations. John said that it was much appreciated, as his TNC was in the shop being repaired when he received the donation. Keep up the good work, guys!

A reminder from me: An attendance sheet is circulated during the meeting. Please make sure you sign it before you leave!

A motion to adjourn the meeting was made by Theresa, KB9KXE. The motion was seconded by Tom, KB9GRC. Meeting was adjourned at 1956 hrs.

Submitted for approval:

David P. Shemchak, KB9KQA, Secretary

Meeting Attendance

Glenn	AA9MT
Janice	N9IQZ
Dave	KB9KQA
Gene	KB9KXF
Theresa	KB9KXE
Dick	N9QFY
Bob	KB9INK
Tom	KB9GRC
Gene	WB9DQD
John	NZ9Z
Ron	WS9X
Clancy	K9WIX
Red	N9GHE
Les	WB9MNO
Fred	W6BSF
Tom	KB9IJR
Denise	N4WKG
Roger	W9NPX
Don	KB9NTL
Bill	K9DUX
Paul	N9QFX
Eric	WD9IAB

Taylor County Area Amateur Radio Club

P.O. Box 401 • Abbotsford WI 54405

MEETING ANNOUNCEMENT

The next regular meeting will be held on Thursday, March 6 at 7 p.m. in the Emergency Government meeting room located in the basement of the sheriff's annex to the Taylor County Courthouse, corner of 2nd and Ogden Sts., Medford, WI. Talk-in on the 147.15 Medford repeater (+600 kHz) or 146.52 MHz simplex.

CLARK/TAYLOR COUNTY AMATEUR RADIO EMERGENCY SERVICE (ARES) NEWS

Mike Schoenfuss, N9GHZ
ARES Emergency Coordinator

Don't forget to try to check into the weekly ARES net held Wednesdays at 8:30 p.m. on the Medford repeater (147.75/147.15). If the repeater is down or not functioning properly, alternate frequencies, in order, are 147.15 MHz simplex and 146.52 MHz simplex. You're also encouraged to volunteer for net control duty for the net.

N9RRF assisted with the 5th Annual Perkinstown Tramp Snowshoe Races and Tours held near Perkinstown on Saturday, January 18, 1997. A total of 284 people ran in the tramp this year, up from 230 in 1996. Participants competed in three races: 3-mile, 6-mile and Mountaineer, as well as a children's Fun Run.

OFFICIAL PUBLICATION OF CENTRAL WISCONSIN RADIO AMATEURS, LTD.

At University of Wisconsin, Stevens Point



WB9QFW 2-Meter Repeater 146.07-.67 and Club Station

P. O. Box 923 • Plover, WI 54467

Meeting Minutes February 12, 1997

President Mary Eiden, KA9FAS, called the meeting to order at 7:30 PM. This month's program was on ham shack ergonomics, given by Mike Pagel, KA9LAQ. It was a very informative and interesting program enjoyed by all.

The secretary's report was, as announced by Secretary Mike Eiden, WD9JID, in the *Badger State Smoke Signals*. Our Treasurer, Joe Larson, N9JW, was not present, so Mary Eiden read the treasurer's report. Both the minutes and the treasurer's report were approved as read.

Bob Baird, W9NN, reported that the 985 repeater is working very well, but he said that the message that was on the repeater announcing about our club and the meetings has not been on for some time and should be put back on the system. It was agreed to re-install the announcement.

Mike Pagel, KA9LAQ, reported that he has had several complaints that abusive and/or foul language has been used on the 67 repeater. It was agreed that for the time being, the repeater will be monitored and notes will be taken as to the times of any more violations.

Mike also reported that with spring approaching we should have a weather related program. But he also stated that he believes that a type of training, not only for weather procedures, but also about radio theory, as a refresher session. He said we should find out what the membership wants. He said he saw an article in *Worldradio* about different ideas listed what clubs can do to generate interest. John Feltz, WA9LWJ, suggested that the club, occasionally meet at other members' homes. Bob Baird, W9NN, suggested that the club have an auction at the meeting.

Mary Eiden, KA9FAS, said that members should give Mike ideas on programs or other things that could be done.

Comments were made on the banquet last month at Michelle's on January 8. All agreed the food was excellent and that everyone had a good time.

John Feltz, WA9LWJ, reported that the Swapfest will be at the Village Park in Junction City. He is working on the flyers and will send them to the printers soon. The raffle and the prizes also are in the works. He said that he went out and looked the place over. He said that we should set up the day before and that we could have a picnic afterwards. Also, the vendors will have to be contacted. John also commented on the auction part of the

Swapfest. John asked for comments on the flyer before he sends it to the printer. It was stated that no letters were sent to other clubs, vendors, or magazines. That will be done this time.

John reported that Field Day will also be at Village Park. He said that the stations will be set up under the open pavilion and that tents will not be needed. Also there are facilities there. John said he will be getting together with Ray Dix, KF9BG, about the trailer and generator, which has to be worked on. Mike Pagel, KA9LAQ, suggests that a piece of PVC pipe mounted to the trailer to store the antennas.

Mary Eiden, KA9FAS, reported that the meeting to plan for the Advanced class was canceled due to bad weather. The group set up another night to get together to plan for the class. The meeting will be next Tuesday, Feb. 18. at 7:00 p.m. at Old Main, going in the West door. It will be in Mike Pagel's office.

Mike Pagel, KA9LAQ, announced about the loss of the 88 Baraboo repeater antenna. After a brief discussion, a motion was made to send a \$75 donation. Also included in the motion was to send a \$25 donation to the *Badger State Smoke Signals*. Motion was passed. Checks will be sent.

John Feltz, WA9LWJ, noted that our meetings should be put in the local newspaper's upcoming events section. It was also suggested that the Chamber of Commerce be contacted to put it in their calendar. A letter will be sent to the local paper and the Chamber of Commerce.

The meeting was adjourned at 8:30 p.m.

Next month's meeting will be held on March 12, 1997 in Room A-107 in the UWSP Science Building at 7:30 p.m.

Attendance

Jim Benak	KA9ACE
Al Mallek	N9WBS
Bob Baird	W9NN
David Tamres	KB9IIF
Gordon Miller	KE9IA
Mike Pagel	KA9LAQ
John Feltz	WA9LWJ
Brian Feltz	WB9E
Gerald Fadness	W9GF
Mary Eiden	KA9FAS
Mike Eiden	WD9JID

Respectfully submitted:
Mike Eiden, WD9JID
CWRA Secretary

Did you "do" the Wisconsin QSO Party? If you did, please remember to send a few photos of your operation with your entry for publication in the results issue of BSSS!

FCC issued callsign update

The following is a list of the FCC's most recently issued call signs as of February 3, 1997.

District	Group A Am Extra	Group B Advanced	Group C Tech/Gen	Group D Novice
0	AB0EB	KI0GL	++	KB0ZNG
1	AA1RO	KE1GZ	N1YMY	KB1CBZ
2	AB2DA	KG2KA	++	KC2ATT
3	AA3PH	KE3YR	N3YQJ	KB3BRS
4	AF4AO	KU4BN	++	KF4OSX
5	AC5LD	KM5GN	++	KC5YTK
6	AC6ZQ	KQ6MQ	++	KF6ITI
7	AB7UB	KK7EY	++	KC7UJI
8	AA8ZD	KI8AT	++	KC8FXZ
9	AA9TS	KG9JD	++	KB9PLP
N Mariana Is	NH0A	AH0AW	KH0FS	WH0ABF
Guam	#	AH2DC	KH2RJ	WH2ANT
Hawaii	AH7M	AH6PA	KH7CO	WH6DDJ
American Samoa	AH8O	AH8AH	KH8DC	WH8ABF
Alaska	AL0A	AL7QT	KL0DL	WL7CUC
Virgin Islands	WP2Y	KP2CJ	NP2JP	WP2AIH
Puerto Rico	KP3V	KP3AP	NP3JX	WP4NMT

New prefixes are available for this block, but none have been issued.
++ All call signs in this group have been issued in this area.

The ARRL Letter, 2/14/97

THE BARGAIN MODE
SSB
SELL SWAP BUY
OUR WANT ADS GET RESULTS

FOR SALE: One (1) RF Parts Co./Diamond Antenna brand Model F-718L omnidirectional base station antenna, cut for 420-430 MHz (Amateur TV frequency range), 11.5 db gain, 50 ohm impedance, rated for 250 watts, 15 ft. in length. Asking \$115.00. Two (2) PC Electronics brand Model TVCX4 single-channel, crystal-controlled Amateur television down-converters/receivers, both crystallized for 427.25 MHz (can be changed). Requires +11 to +15 Vdc, AC adapter included. One unit outputs to TV channel 3, the other to TV channel 4. Asking \$65.00 each. Will sell above as package or separately. Contact Mike Schoenfuss, N9GHZ, P.O. Box 401, Abbotsford, WI 54405, phone (715) 223-3318, or e-mail muzikman@pcpros.net (NEW e-mail address.)

FOR SALE: Yaesu FT-101E, good clean condition, \$225.00. Ten-Tec model 1208 6-meter transverter, \$75.00. Kantronics KAM Plus w/Hostmaster C-64 software, \$150.00. MFJ-945D 300 watt cross-needle tuner, \$45.00. Heath model 221 VTVM w/probes, \$20.00. **WANTED:** Manual for Gonset "gooney bird" transceiver. MBA-TOR cartridge for C-64 Commodore. Herman Ludvik, W9HJV, 1131 So. 15th St., LaCrosse WI 54601. (608) 782-2029.

FOR SALE: Computer desk and computer table. \$100 or best offer for both; you pick up. Zoom 14.4 outboard modem, \$35.00. Jim Romelfanger, K9ZZ, 412 1/2 Ash Street, Baraboo, WI 53913. (608) 356-4031. smokesigs@baraboo.com

Quarter Century Wireless Association Southeastern Wisconsin Chapter 162

Larry McCalvy, WA9JMO
5400 Six Mile Road
Radne, WI 53402



Marbeth (Ken, N9NBC) Knoff returning from the newspaper box at the end of the driveway and engrossed with the paper's printed word, encountered a stretch of extremely slippery ice that caused her legs to move faster than the rest of her. She and the paper landed on the ice. Marbeth broke two bones in her leg and is sporting a "hip-to-ankle" cast. Ken said he heard a commotion, went to the door and saw Marbeth on the walk. She had pulled herself up the drive to the porch clutching the paper. Ken said he thought the *Keno-sha News* was ok but it was not *that* valuable. Take care and mend fast, Marbeth!

On Sunday, the 16th of February, twenty-eight members, with their spouses and guests enjoyed an afternoon at the Fireside Restaurant in Kenosha as we celebrated Valentine's Day in the QCWA tradition of good food, great friends and some wonderfully interesting conversations. Joining us for the first time was Don Buska's (N9OO) wife Bonnie (KB9NOE). Welcome and we will look forward to meeting at future gatherings. Also, Mike (WV7T) and Rhoda (KB2BZY) Anderson brought a guest and due to my error (I did not list his name and call on my notes) I am unable to identify him in print. But we did welcome him at the time.

During the weekend of 8 and 9 February, Bill "Light on His Feet" Komistra, W9OVZ, was burning up the floor as he participated in a local dance contest. I inquired as to the contest's outcome and received the comment that Bill's style was like that of a first place finisher, but no one would admit to the position this contest actually placed at after the dance concluded. Bill did enjoy himself, I was told.

Our annual audit committee was selected by President Ken Knoff, N9NBC. Al Algiers, W9HR; Spence Clope, W9LDH; Chuck Knotek, W9GKM; and Herb Ladwig, W9PHJ, will check our treasurer's books to make sure the Treasurer, Bob Jensen, W0WLN hasn't bought a new Cadillac for hauling around the Chapter's

record.

A little friendly competition is underway between Al Algiers, W9HR and Bill Komistra, W9OVZ, as to who will make the most on the air contacts during QCWA's Golden Anniversary (1947-1997) QSO Party. According to Bill, Al has 65 contacts and he has 25, but Bill tells me all of his QSOs are QRP. I'll have to get Al's comments next month.

Our March meeting will be held at the Racine Airport's Museum on Monday the 17th at 7pm. The airport is located at 3239 North Green Bay Road in Racine. Take I-94 to Hwy "K" in Racine County, turn east and travel to Hwy 38 (Hwy "K" ends there) turn right past Hwy 31, past the Holiday Inn and over the river. Stay in the left hand lane and turn left at the lights. Stay in the left lane and turn at the first street on the left (that is Green Bay Road). The airport will be on your right and there should be several Hams monitoring the Lakeshore Repeater (147.270 MHz) to guide you in.

Our Chapter will celebrate our 10th Anniversary on Sunday, April 20th at a place yet to be determined. I would like to make a suggestion for either the Summit Restaurant or the Marriott Hotel Restaurant. Both are located in Racine on Hwy 20.

On Saturday the 8th of March, the Greater Southeastern Ham Banquet will take place at Ensenada's Restaurant, 8300 Washington Avenue (Hwy 20) in Racine. Registration begins at 5:30 p.m., dinner about 7 p.m., awards and recognition at 8 p.m. For your listening and dancing pleasure, starting at 8:30 p.m., the digital music of Ray "Wolfman" Wolfe (WB9-LST/K9RI -- I hope I have Ray's new call correct). For details and reservation forms, call Bob Jensen W0WLN at 886-8551, or catch him on the repeater, 147.270 MHz. Time is short, if you want to attend, call Bob NOW.

73, Larry, WA9JMO

Red Cedar Repeater Association, Inc.



Steve Hart, KA9OMC, Secretary



E616 810th Avenue

Knapp, WI 54749

2-Meter Repeater: 146.01 Input/146.61 Output

Greetings, RCRA sponsors and guests.

The last social hour was held January 28 in Menomonie. Balance on the account at meeting time was \$415.34.

Attendance was as follows:

Jeff Cole	N9PPE
Jim Fitzl	N9LIJ
Judy Holtzman	KB9MAU
Todd Holtzman	KB9NGE
Arlene Kraft	KF9CU
Steve Hart	KA9OMC
Ken Reetz	KA9PVY

Jeff, N9PPE, brought the pair of snow shoes that he had recently built as a result of a class at Beaver Creek Reserve. Jeff told us of his and Jim, N9LIJ's, trek on a trail lighted by candles at Beaver Creek.

Ken, KA9PVY, paid a pledge to the operation of the repeater for 1997, and indicated that he is working on a 2-meter

beam to access the repeater from his home at Fall Creek.

Arlene, KF9CU, brought another label drive check, and also took home some additional labels collected by Ken, KA9PVY. Arlene indicated that she would be helping serve at the auction on February 25.

Todd, KB9NGE, and Judy, KB9MAU, also plan on helping at this year's auction.

A reminder that our March 25 social hour will be held at 603 21st Avenue in South Menomonie. This will be held in the community room, and is at the invitation of Peter Johnson, KB9NGD. Time for the meeting is 7:30 p.m.

We will have a complete report in April BSSS of our auction activity.

73.

Steve Hart, KA9OMC
RCRA Secretary/Treasurer

HAM RADIO GROWS IN 1996

Good news: The number of licensed Amateur Radio operators in the US rose by approximately 1.9% last year! FCC statistics show that ham ranks increased by 12,207 from December 1995 to December 1996. During 1996, 28,854 new licenses were issued by the FCC, while another 13,926 hams upgraded their operating privileges.

Not-so-good news: During January 1997, the total number of hams dropped by 641 (possibly due to the cancellation or expiration of the licenses of deceased hams). The number of new and upgrading hams also was off slightly last month compared to the month previous.

Bad news: The number of applications forwarded to the FCC by the ARRL-VEC for new and upgraded licenses during 1996 was down by 5198 over the previous year. That represents a 16% drop--consistent with what other VECs are reporting.

The ARRL Letter, 2/21/97



Washington County Amateur Radio Club

Tom Waldschmidt, N9LZW,
Secretary
465 Elder Lane
Allenton, WI 53002-9799



Club Repeater: 146.73 MHz

<http://www.nconnect.net/~WCARC>

Meeting Minutes February 13, 1997

The February 13, 1997 meeting of the Washington County ARC was called to order at 7:31 p.m. There were 15 attending.

The financial report was read by Treasurer Dave, KA9RNU. There was a motion by Bill, N9IBU, seconded by Bob, AA9EF, to accept the Financial Report. Motion carried.

Annual Report: The annual financial report was handed out to the members by Dave, KA9RNU. There was a motion by Paul, W9SIZ, seconded by Paul, N9KIK, to accept the annual financial report. Motion carried.

Election of Officers: The nomination of officers for 1997 was announced. Nomination for President was Gary, W9XT, for Vice President was Chris, N9ZES, for Secretary was Tom, N9LZW, and for Treasurer was Dave, KA9RNU. A motion was made to slate the voting by ballot since they ran unopposed by Bob, AA9EF and seconded by Bill, N9IBU. The motion was carried and approved. Gary, W9XT, as president, Chris, N9ZES, as vice president, Tom, N9LZW, as secretary, and Dave, KA9RNU as treasurer.

Gary, W9XT, opened the meeting by thanking the new officers for serving in their capacities.

Repeater Report: Don, K9GR, reported a brief meeting was held in which goals were made to improve the performance of the repeater by tuning the cavities and obtaining spare parts in case of component failure.

ARES: Walt, N9LLS, reported our meeting for ARES will be held jointly with OZARES at the Ozaukee Justice Center in Port Washington. We will be trained on weather spotting. Walt also announced our group will participate in various simulated emergency exercises this year.

New Business

Larry, WB9BVB, suggested the club to meet at the Polk Town Hall since many of the members are from that area. Don,

K9GR, asked if the building had available audio/visual equipment and/or other conveniences which are found at the present court house site.

Jim, KB9LTW, asked if our club could meet every other month in order to bring quality programs to our meeting. Don, K9GR, read from the by-laws the club meets every month.

Larry, WB9BVB, requested running slow scan net through the repeater. Discussion was made whether the repeater could take extended time of transmittance, when it could be run, etc.

Larry, WB9BVB, suggested to broadcast the ARRL amateur radio news which is presently done on the "67" repeater on the "73" repeater. Larry will obtain a recording of news broadcast, bring it to our next meeting, and allow the members to discuss the possibility.

Mauri, W9MQD, suggested a packet BBS. Joel, K9MLD, advised to find out what coordinated frequencies are available in Wisconsin. (K9MLD suggested to look on the Internet at sedan.com). Jim, KB9-LTW, will check for those frequencies with W9MQD.

Joel, K9MLD, suggested to place PL on our repeater's output as a goal in upgrading.

A motion was made by Larry, WB9-BVB and seconded by Chris, N9ZES, to adjourn. The motion carried. Next meeting will be held on March 13 in room 1020 at the Washington County Courthouse.

The program was a video brought by Gary, W9XT, on contesting, which was put together by CQ magazine.

Breakfast and Event Schedule

March 2	Slinger Inn (Slinger)
March 6	Net on 146.73MHz at 7:30 pm
March 9	Mineshaft (Hartford)
March 13	ARES at 7:00 pm
	WCARC mtg at 7:30 pm
March 16	Jimmy's (Jackson)
March 20	Net on 146.73MHz at 7:30 pm
March 23	Woodview Cafe (West Bend)
March 27	Net on 146.73MHz at 7:30 pm
March 30	Corfu's (Hubertus)



SHEBOYGAN County Amateur Radio Club

★

Chris Jacobs, N9VKC, Secretary
W4065 Dekker Rd., Waldo, WI 53093

At press time, nothing for publication had been received from the Sheboygan County Amateur Radio Club.

Wisconsin Valley Radio Association

Kim Kunze, N9SDL, Secretary

P.O. Box 363 • Wausau, WI 54402

Six Meter Repeater: 51.74 Input/51.24 Output

At press time, nothing for publication had been received from the Wisconsin Valley Radio Association.

Your articles, stories, and photos are welcome for consideration for publication in BSSS. Written material may be e-mailed (ASCII only). If the material contains charts, graphs, or photos, please send by post. If possible, send the story on disk (ASCII), with hard copy included. Send these features to the editor, Jim Romelfanger, K9ZZ, 412½ Ash Street, Baraboo, WI 53913. Photos are usually NOT returned. Many photo labs offer double sets of prints at no extra charge. We will be eagerly awaiting your Pulitzer-winning story!

Network guru links northwest Wisconsin, northeast Minnesota, Canada

By Fr. Bill Jablonske, W9NNS
wjablon@win.bright.net

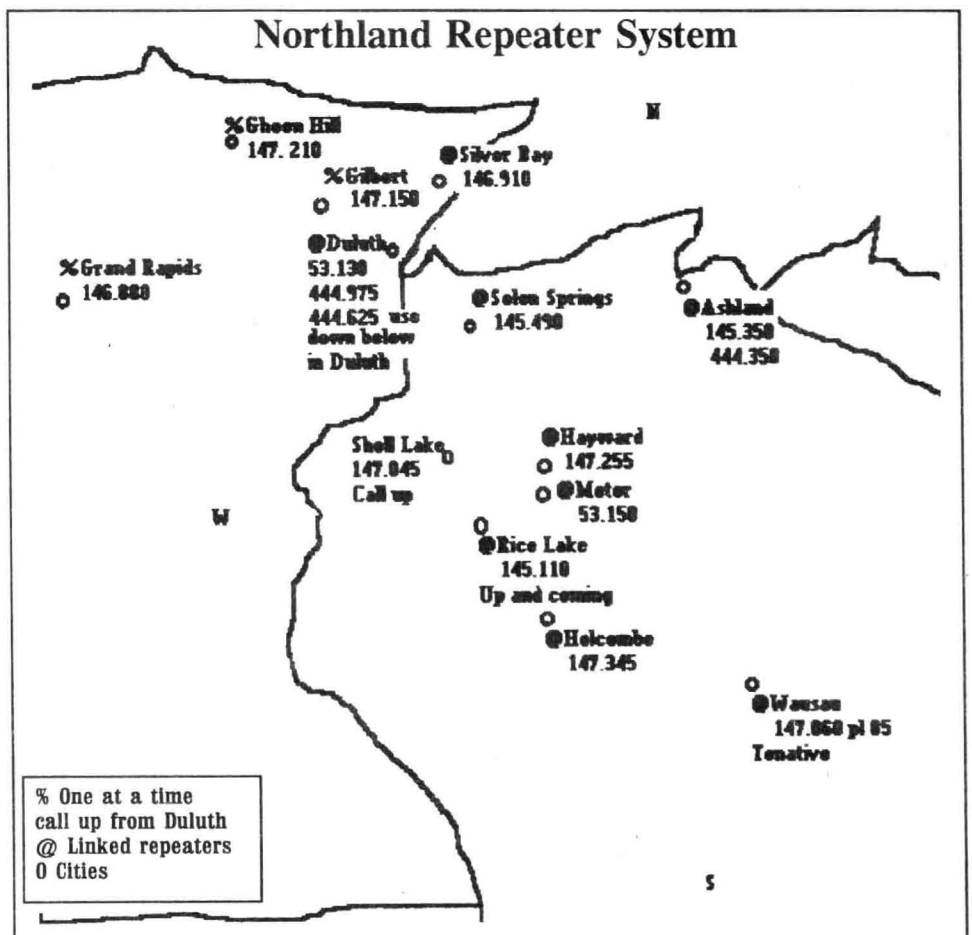
Who would think of a train engineer as a networking guru of northwest Wisconsin? Meet John Lindberg, N9QWH, of Solon Springs, the man who has turned a big idea into a big network in a few short years. And meet Mary, KB9LFF, his wife, who has spent long hours at remote tower sites late at night in every kind of weather. These two, working with many friends have brought a lot of ham's together by radio in the far-flung and snowy regions of northwest Wisconsin and northeast Minnesota. The N9QVM linked system includes the repeaters you see on the map with the article, and involves him in work with several operatives, fellow hams who have joined with John and Mary over the past 4 years to create this extensive network. Early on, Mike, N9QVY, of Conrath, put up a tower on Holcomb Ridge near Ladysmith, where the beginnings of this enterprise took place.

The hub of the system was on the tower at 145.345 MHz. Soon it was joined to W9NNS repeater in Hayward on 147.255. Through donations from a Oil Pipeline Company, enough radios were acquired to extend both the packet network in the Northwest quadrant of Wisconsin, and to give them the GE Mastr 11 and GE Exec transceivers and repeaters which slowly became part of this system. Originally, they were given to Rich, N9MEH, of Stanley, who gave them to now silent key Mike Ceraso of Eau Claire and to W9NNS, Father Bill Jablonske, who arranged distribution to both packet and voice repeater services. Almost every piece of radio equipment is GE and are

very ham-friendly. Also a lot of extra generosity in time or money came from recently silent key Al N9MMU of Rice Lake, from the Hayward Namekagon Valley Wireless Association, and from Wes, N9PHS, in Shell Lake. And the Hayward system depends heavily on the enthusiasm of a more recently licensed ham, Ed, KB0JPR. He has become very skilled at controller adjustment by remote instruction from N9QVM, who watches over the system through a complex of 440 links and tones from his basement lair in Solon Springs.

And the system continued to grow. Part of that gift of GE radios were 2 six-meter repeaters with duplexers. One was placed in service on Meteor Hill near Exeland on a tower also owned by Mike N9QVY, and can run 300 watts. It can cover to areas south of Eau Claire on 53.150 MHz. Another operates in Duluth "up on the ridge" on 53.130. To it is linked a 440 repeater serving to the north and is linked to 145.345. There is also another two meter machine giving access to the system in the downtown Duluth area. Three people were especially important in developing the operations at Duluth: they are Doug, AA0AW, Cletus, KB0LBS, and his wife Karen, N0WEZ. It is also possible to call up other repeaters on the Iron Range in Northern Minnesota during weather emergencies. Also recently, the KB9AMY repeater at Ashland became a full-time link in November 1996.

Today, this system links across the Canadian border to a remote base at Thunder Bay using a Kenwood radio through



the 146.91 repeater at Silver Bay. There are plans to expand from Holcomb to the Wausau 147.06 (KC9NW) repeater and replace and link to the long-time coordinated repeater at Rice Lake on 145.11.

This system provides direct weather spotting to the Duluth weather bureau in times of weather alerts and as far as possible, with few and scattered members, provides services for bicycle races and dog-sled races and other public events.

There is a lot of pride in those who

have accomplished this "next-to-impossible" feat. And characteristic of their efforts to open the northland to all the hams, they welcome anyone who is interested in some work and even a financial stake in the still developing network of voice repeaters, now offering both public service in emergency and fun to anyone who comes on frequency. They will welcome you too.

If you want to check this out further drop email to: Mary KB9LFF [jlindeber@win.bright.net]

Amateur Radio gains ground in little LEOs battle

As the fight continues to prevent hams from having to share 2 meters and 70 cm with the Low-Earth-Orbiting satellite industry, changes favorable to Amateur Radio have been incorporated in a draft report that will eventually go to the FCC. While the Little LEO industry persists in its efforts to secure a foothold on both bands, it seems to have turned its sights away from 144 to 146 MHz in favor of 146 to 148-MHz, which is not an amateur allocation in Region 1. But, most significant was the addition of eight words -- at the ARRL's request -- to a draft report section dealing with sharing with the Amateur Radio: "Any consideration of sharing would require further study." AMSAT supported the League in requesting the changes.

The latest draft also now states, "The diverse nature of the Amateur Service characteristics makes sharing difficult, but it has not yet been demonstrated to be impossible." The Informal Working Group-2A (IWG-2A) approved the changes at its January 21 meeting in Washington, DC. An earlier draft of the same section had called sharing "difficult, but not impossible" and claimed that studies had not considered certain sharing techniques discussed elsewhere in the report. The ARRL objected on the grounds that its study had taken some of the sharing techniques into account.

In this section of the report, the Little LEO industry also backed away from references that cited Resolution 640 (an ITU radio regulation that involves the use of specific bands on an emergency basis) as a way to leverage access to 430 to 440 MHz and 146 to 148 MHz in Regions 2 and 3, where that 2-meter band segment is an exclusive amateur allocation.

It's expected that when the FCC's WRC-97 Industry Advisory Committee (IAC) meets March 5, it will adopt the sharing section of the report (Section 4.12) as part of its report.

With the possible exception of 144 to 146 MHz, Amateur Radio still is not out of the woods, however. Another paper still under consideration in IWG-2A -- submitted by a Little LEO consultant at the Janu-

ary 21 meeting -- proposes little LEO sharing in several bands, including 146 to 148 and 430 to 450 MHz in those parts of the world where the Amateur Service is not primary (which, in the case of 430 to 450 MHz, includes the US), with provisions for emergency use elsewhere.

The ARRL objects to these proposals, noting that they are inconsistent with the report language that's already been agreed upon. The US Department of Defense objects to little LEO allocations at 430 to 450 MHz, where radiolocation (radar) is primary. Military radar and Amateur Radio operations have a long record of coexistence that would be upset by the introduction of a new satellite service.

Two Little LEO representatives on IWG-2A declined to lend their names to the most recent proposals, which were submitted in the names of CTA, E-SAT, Final Analysis, GE Starsys and VITA--all players in the Little LEO effort.

Clowning around with Buffalo Bill



This photo was taken on board the 1996 run of the Great Circus Train from Baraboo to Milwaukee. These folks look like they were having fun.. and they were! The HF station for 1997 may have (1) an unusual call sign, and (2) may add 15 meter capability. Two meters may be available, but due to lack of cooperation from stations worked on two-meter FM (they didn't send SASEs), it will be very lightly used, if at all. There may be a genuine surprise, too.

Any papers on which agreement cannot be reached within IWG-2A will not be included in the body of its report, but will be included in an annex along with opposing comments. At future IWG-2A meetings, the ARRL will continue to protest the inclusion in this paper of the 146 to 148 and 430 to 450-MHz bands.

(And, now they are after 219-225 MHz. See story elsewhere in this issue.)

THE ARRL LETTER, 2/7/97

Next month in BSSS....

- We hope to provide you with an .88 recovery update, the Central Wisconsin Repeater Association's wide-area repeater which was taken off the air when the WOLX tower on which 88's antennae were installed came crashing to the ground.
- And.. Nobody took up my challenge to reveal their most embarrassing moment on the air. So, I'll tell mine. Nothing could possibly top it, anyway!

Jim Romelfanger, K9ZZ, editor

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Andy Nemec, KB9ALN, Editor • 720 N. Broadway (Upper West) • Green Bay, WI 54303

WAPR News - March, 1997

Hello everyone. Though some have been fooled with our brief February thaw, veteran Wisconsinites know that we "ain't out of the woods yet". As we have our fair share of the cold and snowy left, it is much easier to think about the fact that spring is "just around the corner". As much as the winter is a bother to some of us, it has yielded some good information.

I received a brief note from Denny, K9AEG in Wittenburg a few weeks back and what he had to say was most encouraging. Some may remember that the node stack in Wittenburg is an outdoor system, and does not have the benefit of being housed in a nice, temperature-stable environment. It does feature Emergency Power, and an in-cabinet heater should it get too cold.

Denny tells me that recently he had a bit of a problem with the cabinet heater, unbeknownst to him. Apparently, the radios and TNC's were stable well down to the zero-degree range! This is a bonus for us, as we were wondering just how cold a system like this could get before it stopped operating. Now we know that Zero is about the limit.

I told you last month that the ice buildup on the antennas at that site rendered it only partially functional. As expected, we had a warming trend that thawed things out nicely. The Wittenburg stack did in fact return to its old self shortly afterward. Of course this prevented a more extreme check of cold-weather operating effectiveness, but it also allowed Denny to find his cabinet heater problem.

So the current favorite combination for backbone nodes seems to be even better than we thought. A lot of Node operators are using this combination of the Motorola Mitrek commercial surplus radio with a Paccomm Spirit II TNC. So far there have been remarkably few failures. Once the crystals age, they seem to be very stable. At 9600 baud, they have to be. Frequency error at that data rate will surely cause significant data decode errors. Luckily, we have been fortunate because we have chosen good equipment.

Speaking of data decode errors, I would like to share something with the folks who are trying to improve the performance of their packet radio systems. I have been searching for the cause of data decode errors in my own station with mixed results, but do believe that the answer may be just around the corner.

The decode errors can be seen if one turns the "passall" for the TNC on, allowing packets that do not meet their checksum to be displayed on the monitor screen. One can see mangled call-signs, funny SSID's, and other interesting packets when this is done.

I have changed radios, TNC's, computers, and serial data rates all in an effort to determine just why this is happening. One change that did produce a noticeable reduction of data decode errors was the changing to a 3-wire serial cable. This, on the surface, would not seem logical. After all, a full serial cable would provide "handshaking" signals that would decrease the chance of bad data exchange between the computer and the TNC. But there is one addition that is not welcome in the audio world (remember that a TNC decodes a change in audio tones!). This is the addition of another ground path in the cable.

Folks who have had experience with audio signals have been exposed to the "ground loop" problem, no doubt. This is the presence of hum and noise caused by two differing ground paths between audio equipment. After all of the investigating that I have done, it appears that this indeed may be causing some of the data decode problems that I have been experiencing. Let's look at how a typical Amateur Radio station is connected, and see how this relates to ground loops.

First, we all like to ground our equipment. Lightning protection and the presence of strong R.F. currents are the primary reasons for this. But consider how most of our packet radio stations are

wired. First of all, the computer is often grounded not only through the power line, but maybe through an additional shack ground. The serial cable has at least one ground wire connecting the computer to the TNC. The TNC is grounded, through the power supply and sometimes additionally through the shack ground. Then the radio is connected to ground, generally through the antenna system and shack ground.

Complicating matters further is the fact that mayhams (myself included) use the same power supply for the TNC and the radio. The negative lead of the power supply connects to both the chassis of the radio and the chassis of the TNC. So now we have 2 grounds connected between the radio and the TNC in addition to the wiring connecting the TNC and radio together. This is where I think the problem lies, and where an improvement can be made. All of these ground paths inject hum and noise into the audio signal, causing data decode errors.

The next step is to couple the TNC and Radio together without ground loops. I have procured transformers and a relay to do this with my station, and will be trying this soon. If you have encountered this problem and have not solved it, or have some experience with this, stay tuned. I will relay the results of this experiment next month. Even the most elegant of theories has to be proven scientifically.

The last thing to remind you of is the quarterly WAPR meeting. There is no firm date and place as of this writing, so do keep checking your local BBS for this information. As always, anyone with an interest in Amateur Packet Radio is welcome to attend, whether they are a member or not.

That is all I have for this month. As always, I invite your comments, suggestions, and input. My BBS address is: KB9ALN@KB9ALN.#GRB.WI.USA.NOAM
 Until next time, 73 from Andy.

Using the Wisconsin Network Part 25

by Andy Nemec, KB9ALN

In the last part of this series, we took a look at the future of Amateur Packet Radio, and what we can do with it. We took note of the evolution of the packet network, and what other changes we might want to see in its continuing development. We drew some parallels with the Internet, and how we would draw on some of the networking advances that have been made there, perhaps applying them to Amateur Radio.

When we left the last part of our series, we broke the network system down to a few basic functions like these:

- 1) A originator of data.
- 2) A Network Interface Host Computer (comparable to a network node we now use, but more functional and automatic).
- 3) An transparent Auto-Routing network requiring no user knowledge or intervention.
- 4) Another Network Interface Host Computer at the destination.
- 5) A receiver of data.

Of course, the originator of data would be your, or any other Amateur Packet Radio station. We mentioned that this station could be combined with a Network Interface Host Computer, more on that later.

The Network Interface Host Computer can be compared to a current node in some ways, but capable of being more "network friendly" than our current nodes. This, as well as the network itself, deserves the most study and contemplation.

Just what would this computer do? Aside from storing and auto-delivering your personal mail, it would route packets properly, maintain a table of reachable destinations, and know the best way to reach a destination. It could act as a gateway to the Internet, it would allow use of different protocols to accomplish different tasks. In effect, it could replace both the BBS and the nodestack you are currently using, and allow you to access the "World-Wide Web" with a text browser (if data rates can be increased sufficiently).

The network itself would consist of interconnected host computers. They would exchange data concerning routing, as well as acting as relay stations and routers to make certain any data it handles is effectively sent to its destination.

While some of this sounds familiar, the methods that these computers use to communicate would be different and far more varied than they are now. Currently, only a portion of the network will allow anything other than AX.25 and the Net/Rom

(node) protocols to be passed. This is the primary difference between what we are using now and what we could use in the future.

In the past 3 years or so, we in Green Bay have been doing considerable experimentation with TCP/IP protocols - the protocols used on the internet. Currently, we have 10 TCP/IP stations in full-time operation, with one or two occasionally operating. In addition, we have a node stack that is equipped with the X-1J4 node firmware, which allows both conventional and TCP/IP protocols to be passed through it. While the X-1J node does not have all of the features of the Network Host Interface Computer described earlier, it is a mid-way point that allows some of the advanced features we may be looking for.

Currently, the only real network host computers we have are the TCP/IP stations themselves. These stations access the network through the nodes, and work with the network. Here is a sampling of what we have been able to do with these stations:

1) Mail a friend without ever having to manually connect up to a node or a mailbox. This is done with the use of "SMTP", the "Simple Mail Transfer Protocol". While SMTP can directly deliver mail to a recipient, it's operation can be modified to store it at a different computer - a different station.

2) If mail is left at another station, it can be automatically collected from that station using the "Post Office Protocol" (POP). Stations are configured to automatically "POP" the nominated "POP Mail Server" and collect mail. These operators don't have to remember to check into their local BBS - their station automatically remembers for them.

3) Transfer text and binary files to other TCP/IP stations with ease. This is the "File Transfer Protocol" (FTP) at work. There is no need to fool with YAPP to transfer binary files, binaries are simply identified as such and the system automatically accommodates this.

4) Test a radio path by requesting an Echo. This is called "Pinging" a station. The Amateur Radio implementation will tell you how long it takes to get an echo return, letting you judge how busy the network is.

5) Find out who somebody is without taking a lot of time to do so. This is the "Finger", kind of like tapping someone on the shoulder and asking "Who are you?" A short custom information file is returned with the answer.

There are even more possibilities that we can talk about, and more yet to explore. We have talked about this before in an earlier installment of this series, but needed to repeat this here to show the versatility of the TCP/IP protocol set.

So now we come to the next step in the evolution of the network as it pertains to Amateur Packet Radio. The Network Interface Host Computer would perform a lot of the functions that current TCP/IP stations would perform, freeing their resources for other things. POP Mail and the SMTP system - automatic mail - could free things up additionally. And now with the intense interest in the World-Wide Web, we could also utilize that for Amateur Radio.

Now let's talk about the other things we will have to consider for the Amateur Radio to effectively use this protocol set. First we need more user-friendly for the occasional user of this powerful system. Programs could be stand-alone DOS versions, or based on the Windows operating platform.

Secondly, we need to resolve one issue that is important to making this system widespread.

Currently, all TCP/IP stains are numbered, kind of like a serial number. For example, my IP address 44.92.20.9. All Amateur Radio network stations begin with the 44 series of numbers. Obviously, there are a limited number of TCP/IP addresses available, and assignment of the number varies according to location. Therefore, widespread use and mobility becomes another complication.

Then there is overcoming the wide-area reliable pathing and routing of data. Right now we rely on the Net/Rom system to do this. Although we have maybe gotten used to some of it's shortcomings, it is not exactly reliable or automatic. TCP/IP routing principles are borne of a wired network that is not subject to propagation variables. So simply adapting all of the routing techniques the Internet uses are not effective. There have been some attempts at doing this, and progress is being made.

Next time we will further explore how a Network Interface Host Computer system can overcome some of these problems, and what to look for in the future. Until then, 73 from Andy.

THE TEST POINT
(continued from page 3)

Test Site: Blaine City Hall
9150 Central Ave NE
Blaine, MN
TESTING: Second Saturday of the month, 9:00 a.m.

Bloomington Amateur Radio Club (BARC)
Contact: Dan Royer, KE0OR (612) 888-9756
Test Site: Creekside Community Center
98th & Penn Avenue S
Bloomington, MN
TESTING: Second Saturday of the month, 9:00 a.m.

Valley Amateur Radio Club (VARC)
Contact: Paul Ramey, WG0G (612) 432-1640
Test Site: Hayes Community Center 14601 Hayes Road
Apple Valley, MN
TESTING: Second Thursday of the month 7:00 p.m.



Yellow Thunder Amateur Radio Club

WB9FDZ (Original Club Call)
K9ODK (Robert L. Prine Memorial Call)

Raymond J. Matlosz, N9MLZ, Secretary
450 West 2nd Street • Reedsburg, WI 53959



W5YI
Contact: Dave Ranney, NOAXL (612) 933-2182
Test Site: Eden Prairie Library
479 Eden Prairie Drive
Eden Prairie, MN
TESTING: Third Tuesday of the month 6:30 p.m.

SE Metro Area Radio Club (SEMARC)
Contact: Dave Harrell, NOIPN (612) 459-8678
Test Site: Cottage Grove fire Station
8641 80th St., S
Cottage Grove, MN
TESTING: Third Saturday of the month, 9:00 a.m.

The above information has been furnished by the various VEs. However, it is suggested that you confirm time, date and location BEFORE you make the trip to the test site. Occasionally, a test may be canceled and/or dates and locations changed. A phone call could save you some grief and a wasted trip.

This section of Badger State Smoke Signals is available to publicize your Volunteer Examiner Amateur Radio license examination schedules. Please send us your schedules of dates, times, and locations that you will be conducting examinations and we will include the information here. Be sure to include contact address and any other necessary requirements. Information should be sent to K9EN at the address shown on page 2.

**SOME WARNINGS LEFT OVER
FROM LAST MONTH.**

The following are possible product warnings that might be required on a package of any and every product, based on the laws of physics and created by Susan Hewitt and Edward Subitzky.

The minutes and other information for the Yellow Thunder Amateur Radio Club were not received by Badger State Smoke Signals in time for inclusion in this issue of BSSS.

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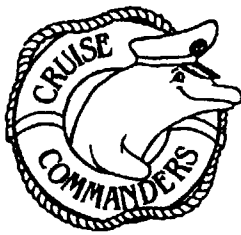
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